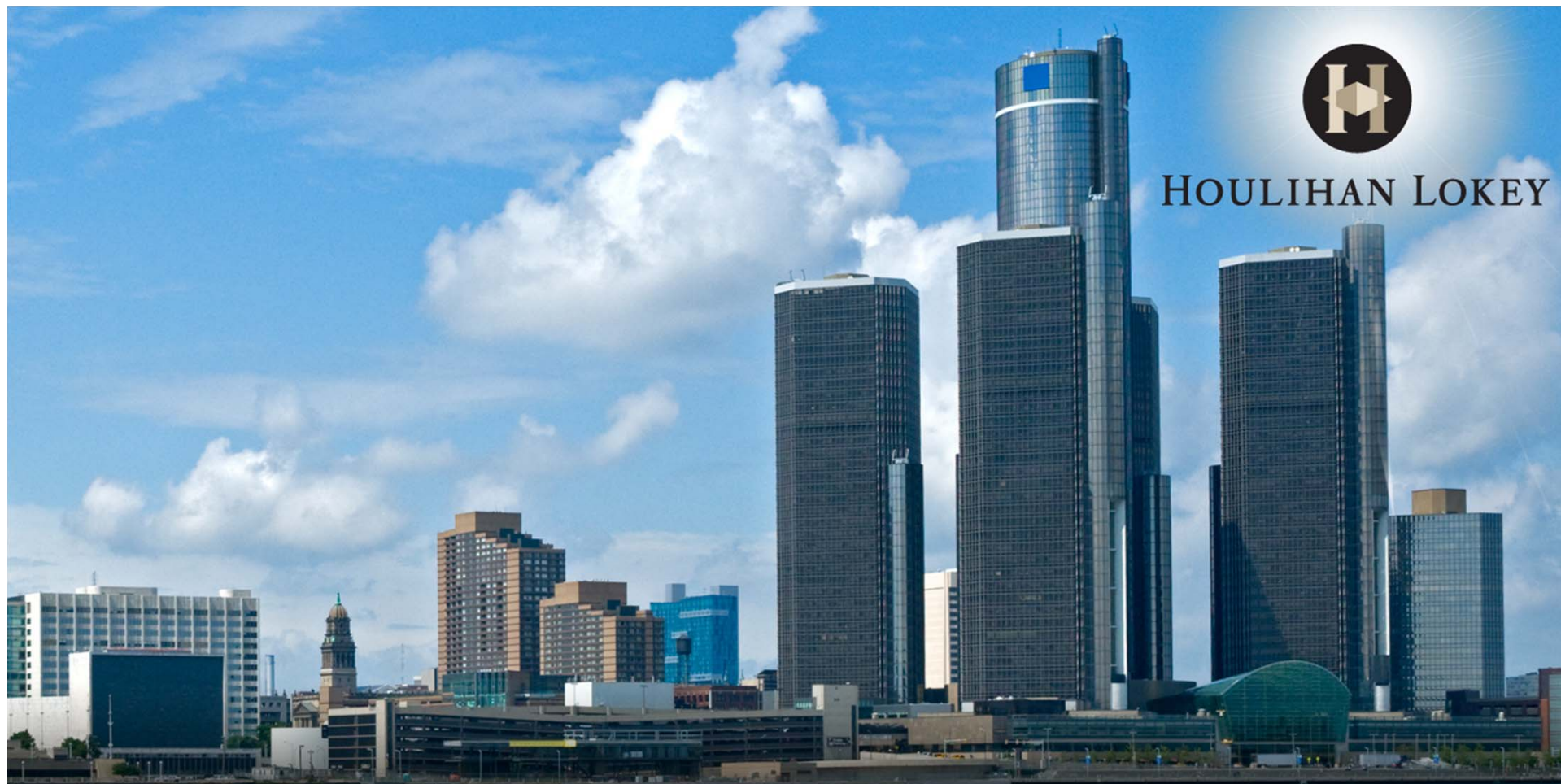


**Exhibit 21**

**Expert Report of Stephen Spencer**



HOULIHAN LOKEY



# City of Detroit Expert Witness Report

July 2014

MERGERS & ACQUISITIONS  
CAPITAL MARKETS  
FINANCIAL RESTRUCTURING  
FINANCIAL ADVISORY SERVICES

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# Roles, Qualifications and Requested Opinions

# Introduction

## Introduction

- I have been retained by Weil, Gotshal & Manges LLP (“Weil”) as an expert in financial restructuring, valuation and the sale of assets from distressed or bankrupt entities on behalf of Financial Guaranty Insurance Company (“FGIC”) in connection with FGIC’s interest in the City of Detroit’s (“Detroit” or the “City”) Fourth Amended Plan for the Adjustment of Debts (the “Plan”)
- I am a Managing Director and partner at Houlihan Lokey (“Houlihan”), a private global investment bank specializing in financial restructuring, corporate finance and financial advisory services. I am a member of the firm’s financial restructuring group and have led the firm’s Municipal Restructuring group since January 2011. I also authored a case study (“Restructuring the Troubled Municipality,” [http://www.hl.com/email/pdf/muni\\_case\\_study\\_ch\\_jun2011.pdf](http://www.hl.com/email/pdf/muni_case_study_ch_jun2011.pdf)) presenting a comprehensive framework for a successful restructuring of a distressed municipality. The case study is considered an important work in the field of municipal restructuring and has been presented to thousands of legal and financial professionals across the country
- Houlihan Lokey receives at this time a fee of \$125,000 per month. In addition, Houlihan Lokey is entitled to receive: (i) upon the consummation of a commutation transaction, a commutation fee equal to 0.20% of the par amount of any commuted exposure under the FGIC insurance policies and (ii) upon the consummation of a restructuring transaction, a restructuring fee equal to 0.10% of the par amount of any of FGIC’s guaranteed obligations that are restructured

## Qualifications – Corporate Restructuring

- I have approximately 20 years of relevant financial advisory expertise. For the last 13 years I have been employed at Houlihan. During my tenure at Houlihan, I have advised dozens of companies in all manner of restructuring transactions. I have particular expertise advising on out-of-court restructuring transactions involving consensual impairment of one or more creditor constituencies. Previous distressed consensual recapitalization transactions I have led include United Site Services, Inc., Network Communications Inc., Aquilex Services Corp. and Hutchinson Technology, Inc. I also advise companies executing bankruptcy-related reorganizations and/or distressed sale transactions. Notable Chapter 11 company advisory engagements I have led include the Aventine Renewable Energy Holdings, Inc., Genmar Holdings, Inc. and Polaroid Corp. transactions. In addition to my company advisory work, I have also advised creditors in executing restructuring transactions such as the recent successful reorganization of Hawker Beechcraft Corp., where I advised an ad hoc group of creditors with a majority ownership stake in Hawker Beechcraft’s \$1.7 billion senior secured credit facility

# Introduction (cont.)

## Qualifications – Municipal Restructuring

- In a municipal restructuring advisory context, outside of Detroit, I am currently involved in advising creditors in another Chapter 9 insolvency proceeding, the restructuring of a multi-billion dollar municipal infrastructure asset and the potential restructuring of municipal debt obligations for a U.S. territory. Beyond my current active municipal restructuring engagements, I have consulted and am presently consulting with municipalities and municipal creditors in numerous cities across the country

## Significant Relevant Transaction History

- |                                   |                       |                             |                             |
|-----------------------------------|-----------------------|-----------------------------|-----------------------------|
| ■ Aventine                        | ■ Premier Card Inc.   | ■ Foamex                    | ■ Allegheny Energy          |
| ■ Puerto Rico                     | ■ Genmar              | ■ Haynes Special Metals     | ■ Flag Telecom              |
| ■ San Bernardino                  | ■ Polaroid            | ■ Syratech                  | ■ McLeodUSA                 |
| ■ Indiana Toll Road               | ■ Quebecor            | ■ Lindstrom Metric          | ■ BioFuel Energy            |
| ■ Applied Extrusion               | ■ White Energy        | ■ American Commercial Lines | ■ Pioneer Chemicals         |
| ■ Aquilex                         | ■ Star Tribune        | ■ Tiro                      | ■ Orchids Paper             |
| ■ TruckPro                        | ■ Corporacion Durango | ■ Applied Extrusion         | ■ Minnesota Corn Processors |
| ■ Hawker Beechcraft               | ■ Ziff Davis          | ■ Missota Paper             | ■ CMS Hartzel               |
| ■ Network Communications Inc.     | ■ Golden County       | ■ Distribution Dynamics     | ■ Patrick Industries        |
| ■ Hutchinson Technologies         | ■ Quality Electric    | ■ Weirton Steel             | ■ Northstar Computer Forms  |
| ■ USEC                            | ■ Parsons Electric    | ■ Wam Net                   | ■ United Site Services      |
| ■ North American Membership Group | ■ AT&T Canada         | ■ Telelobe/Bell Canada      |                             |

# Introduction (cont.)

## Recent Cases in Which I Provided an Expert Opinion

- Creative Memories
- Genmar
- Polaroid

## Requested Opinions

**In connection with my testimony, I have been asked to opine on the following questions:**

1. What are the economic and non-economic disparities in recoveries between Class 9 claimants, on the one hand, and Classes 10 and 11 claimants, on the other?
2. To what extent does the City have assets that could be monetized – either within or outside of Chapter 9 – for the benefit of creditors?
3. Does the DIA Settlement maximize the value of the City's art collection?
4. What recovery could Class 9 claimants expect to receive if the Chapter 9 case were dismissed and Class 9 claimants pursued their claims outside of bankruptcy?
5. If the City is successful in its adversary proceeding to invalidate its obligations under the Service Contracts, and the Class 9 claimants then succeed in disgorging the proceeds of the COPs transactions from the Retirement Systems, will the City be able to fund contributions to the GRS and PFRS at the levels provided for in the Plan, and make the other payments required by the Plan?



# Introduction (cont.)

## Summary of Conclusions

### **1. What are the economic and non-economic disparities in recoveries between Class 9 claimants, on the one hand, and Classes 10 and 11 claimants, on the other?**

- On its face, the Plan provides a 59% recovery to Class 10 (PFRS pension) claimants, a 60% recovery to Class 11 (GRS pension) claimants and a 10% recovery to Class 9 (COP) claimants – essentially an economic disparity of 50 percentage points between COP and pension creditors
- Factoring in an appropriate New B Notes discount rate to reflect the riskiness of COP Plan consideration, this recovery disparity between COP and pension creditors rises to 54 percentage points
- Factoring in contingent value recovery opportunities for the pension creditors, this disparity rises to 94 percentage points
- Factoring in the City's most recent actuarial estimates (prior to the revised estimates presented in the Plan), this disparity rises to 494 percentage points between COP and PFRS claimant recoveries and 127 percentage points between COP and GRS claimant recoveries
- There are additional qualitative factors such as the diverse sources of recovery benefiting pension claimants that add to the disparate economic treatment of pension claimants relative to COP claimants under the Plan

### **2. To what extent does the City have assets that could be monetized – either within or outside of Chapter 9 – for the benefit of creditors?**

- Conservative estimates of potential value realization for the City's major assets including the DIA, DWSD, City-owned land, the Coleman A. Young International Airport, the Detroit Windsor Tunnel, the Joe Louis Arena and the City parking structures suggest these City-owned assets could collectively generate multiple billions of dollars of incremental distributable value for the benefit of the City and its creditors
- Outside of bankruptcy, both distressed and non-distressed cities (including Detroit historically) routinely monetize assets as a means of dealing with temporary or more profound financial concerns or constraints
- Detroit could have monetized these assets either as part of its Plan or, like many other cities, outside of a Plan process

# Introduction (cont.)

## Summary of Conclusions (cont.)

### 3. Does the DIA Settlement maximize the value of the City's art collection?

- The “Grand Bargain” fails to maximize the value of the City's art collection
  - The actual value of the Grand Bargain is far less than the headline value the City has sought actively to promote
  - The actual value of the Grand Bargain is far less than the market value of the DIA's collection assets
  - The City has failed to explore a more comprehensive range of DIA transactional alternatives
  - The Grand Bargain burdens Detroiters with a large opportunity cost:
    - Because the DIA market value vastly exceeds both the Grand Bargain value and other measures of the DIA's value to the City, it imposes a significant opportunity cost on the City and its creditors
    - Instead of being allowed to monetize collection assets or explore other DIA transactional opportunities, the Grand Bargain accomplishes a form of regional expropriation of the DIA (for the benefit of public and private interests outside the City), thereby denying the City an opportunity to use DIA proceeds to catalyze recovery and settle claims
  - The Grand Bargain fails to resolve fundamental problems with the municipal ownership / funding structure that have plagued the DIA throughout its history and may impose future economic costs on the City

# Introduction (cont.)

## Summary of Conclusions (cont.)

### **4. What recovery could Class 9 claimants expect to receive if the Chapter 9 case were dismissed and Class 9 claimants pursued their claims outside of bankruptcy?**

- If the Chapter 9 case were dismissed and Class 9 claimants pursued their claims outside of bankruptcy I believe they would recover significantly more than what has been proposed under the Plan
  - Dismissal of the Plan would prevent the City from cramming down the Class 9 claimants and instead pave the way for a pari passu (or at least more equitable) treatment of all unsecured claims as and when they come due
  - Dismissal of the Plan would force the City to conduct a more comprehensive assessment of its ability to pay, incorporating its legacy balance sheet assets instead of using Chapter 9 to significantly impair only financial creditors
  - Dismissal would also force the City to implement a more comprehensive and effective operational restructuring, thereby generating additional sources of cash flow
  - Both the real world experience and the theoretical modeling for creditors in a similar circumstance support dismissal of the Chapter 9 proceeding as the value maximizing outcome compared to a cram down Plan that caps Class 9 claims at de minimis recovery levels, thereby precluding COP claimants from participating in the City's economic recovery

### **5. If the City is successful in its adversary proceeding to invalidate its obligations under the Service Contracts, and the Class 9 claimants then succeed in disgorging the proceeds of the COPs transactions from the Retirement Systems, will the City be able to fund contributions to the GRS and PFRS at the levels provided for in the Plan, and make the other payments required by the Plan?**

- Using the City's own projections, if the net proceeds of the 2005 COPs transaction are disgorged and all of the City's other assumptions remain constant, the City will be unable to adequately fund its required amortization payments beginning in 2024 and will run out of cash by 2029



# Unfair Discrimination Analysis

# Unfair Discrimination Defined

- For the purpose of this analysis, I have analyzed the Plan based on the criteria set forth in two alternative standards: (i) the “Aztec” test and (ii) the “Markell” rebuttable presumption test<sup>[1]</sup>

## “Aztec” Test

- **Definition:** According to the Debtor, the Aztec standard is a four-factor test that is a “comprehensive framework for evaluating all of the questions that may bear on the question of unfair discrimination”
- **Criteria:** The Aztec test considers:
  1. Whether the discrimination is supported by a reasonable basis;
  2. Whether the debtor can confirm and consummate a plan without the discrimination;
  3. Whether the discrimination is proposed in good faith; and
  4. The treatment of the classes discriminated against

## “Markell” Rebuttable Presumption Standard

- **Definition:** According to the Debtor, under the Markell test, a rebuttable presumption of unfair discrimination arises if three criteria are satisfied
- **Criteria:** A rebuttable presumption that a plan is unfairly discriminatory will arise when there is:
  1. A dissenting class;
  2. Another class of the same priority; and
  3. A difference in the plan’s treatment of the two classes that results in either (a) a materially lower percentage recovery for the dissenting class (measured in terms of the net present value of all payments), or (b) regardless of percentage recovery, an allocation under the plan of materially greater risk to the dissenting class in connection with its proposed distribution
- The presumption may only be rebutted by showing (i) outside of bankruptcy, the dissenting class would similarly receive less than the class receiving greater recovery; (ii) the preferred class infused new value into the restructuring, which offset its gain; or (iii) allocation of risk was consistent with the risk assumed by the parties pre-petition



# Unfair Discrimination – Summary of Findings

- The Plan generates disparate recoveries for the reasons summarized in the following matrix and elaborated upon on the following pages of this report

## The Plan generates excessively disparate recovery outcomes favoring pensioners

<b>Factual Basis</b>	<ul style="list-style-type: none"> <li>■ The Plan provides more than a 50 percentage point recovery differential between Class 10 and 11 creditors (i.e., pension claimants) and Class 9 claimants<sup>[2]</sup></li> <li>■ The Debtor substantially underestimates recoveries to Classes 10 and 11 through: <ol style="list-style-type: none"> <li>1. Use of alternative actuarial assumptions to inflate pension plan funding deficiencies thereby lowering estimated recovery thresholds; and</li> <li>2. Not accounting for contingent value recovery mechanisms</li> </ol> </li> <li>■ The Debtor overstates the estimated recoveries for recipients of the New B Notes by selecting (and using) a below market discount rate</li> </ul>
<b>Discriminatory Implications</b>	<ul style="list-style-type: none"> <li>■ Plan qualifies as discriminatory under factor 4 of the Aztec test and factor 3(a) of the Markell standard</li> </ul>

## The Plan directs superior sources of recovery to pensioners

<b>Factual Basis</b>	<ul style="list-style-type: none"> <li>■ The third party monetary contributions being directed to pension claimants are from a diversity of parties which collectively constitute a source of payment that exhibits a superior credit and liquidity profile compared to the post-restructuring credit and liquidity profile of the City</li> <li>■ The \$632 million of New B Notes consideration is effectively structurally subordinate based on the Debtor's classification under the Plan, subjecting it to inherently greater risk of recovery from City cash flows</li> </ul>
<b>Discriminatory Implications</b>	<ul style="list-style-type: none"> <li>■ Plan qualifies as discriminatory under factor 4 of the Aztec test and factor 3(b) of the Markell standard</li> </ul>

# Unfair Discrimination – Summary of Findings (cont.)

## The defined benefit replacement plan is comparatively generous

<b>Factual Basis</b>	<ul style="list-style-type: none"> <li>■ Under the Plan, City employees (“actives”) will receive contributions to a 401(k)-style replacement plan that are comparatively generous relative to similar private and government sector plans including a plan for the benefit of Michigan’s teachers</li> <li>■ The comparative generosity of the City’s new defined contribution plan provides an effective counter-balance to potential motivational challenges in the City’s work force stemming from greater impairment of pensions under a potential alternative Plan of Adjustment proposal</li> <li>■ Pension benefits have been impaired to a greater degree in other cases where active employees are vital to continued operations</li> <li>■ The per-employee cost of enhanced pension recoveries is approximately \$100,000</li> </ul>
<b>Discriminatory Implications</b>	<ul style="list-style-type: none"> <li>■ Plan qualifies as discriminatory under factor 1 and factor 2 of the Aztec test</li> </ul>

## The Debtor contends financial creditors’ greater underwriting resources are cause for disparate treatment

<b>Factual Basis</b>	<ul style="list-style-type: none"> <li>■ To support the lower recovery percentages being offered to financial creditors, the Debtor contends financial creditors are sophisticated investors with more abundant resources to assess risk than pensioners, and are therefore deserving of lower recoveries because of a failure to use these resources to their comparative advantage</li> <li>■ In the financial creditors’ defense, it is notable that unlike corporate debt underwriting, the municipal debt underwriting process takes place at a distance, with complete reliance on City-produced financial data and <u>no</u> direct access to diligence City government operations</li> <li>■ Immediately prior to and during the bankruptcy proceeding, the Debtor disclosed previously unknown facts and data describing the severity of City government dysfunction and lack of primary data integrity which could not possibly have been known under the municipal debt underwriting model</li> <li>■ The Debtor also used specific assumptions, such as a lower pension discount rate, to materially advantage the recovery outcome of pensioners, which could not have been foreseen on a pre-petition basis</li> </ul>
<b>Discriminatory Implications</b>	<ul style="list-style-type: none"> <li>■ Plan qualifies as discriminatory under factor 1 of the Aztec test</li> </ul>

# “Markell” Rebuttable Presumption Standard

- The presumption of unfair discrimination may only be rebutted by showing that:
  - i. Outside of bankruptcy, the dissenting class would similarly receive less than the class receiving greater recovery;
  - ii. The preferred class infused new value into the restructuring, which offset its gain; or
  - iii. Allocation of risk was consistent with the risk assumed by the parties pre-petition

Rebuttal Criteria	Key Considerations	Criteria Satisfied?
<b>Outside of bankruptcy, dissenting class would similarly receive less than class receiving greater recovery</b>	<ul style="list-style-type: none"> <li>■ In the event that the City’s bankruptcy case is dismissed, unsecured creditors would be able to assert their claims on a pari passu basis and would receive distributions based on their pro rata allocation of the total unsecured claims pool</li> <li>■ A dismissal would allow unsecured claims to preserve the option value of their claims and participate in the City’s future economic recovery, rather than cap recovery prospects for unsecured claims and crystallize losses               <ul style="list-style-type: none"> <li>● Treatment of unsecured claims outside of bankruptcy is discussed further in the “Best Interests” section of this report</li> </ul> </li> </ul>	<b>NO</b>
<b>Preferred class infused new value into the restructuring which offset its gain</b>	<ul style="list-style-type: none"> <li>■ The preferred classes (i.e., the PFRS and GRS pension claimants) have not provided incremental value or funding beyond that which was already available to the Debtor</li> </ul>	<b>NO</b>
<b>Allocation of risk was consistent with risk assumed by parties pre-petition</b>	<ul style="list-style-type: none"> <li>■ The City itself has acknowledged that all unsecured claims are pari passu               <ul style="list-style-type: none"> <li>● In the City’s June 2013 Proposal for Creditors (the “June 2013 Proposal”), the City contemplated a pro rata distribution of consideration to all unsecured claims<sup>[3]</sup></li> <li>● Judge Rhodes similarly acknowledged that pensions cannot be treated differently from other unsecured debt in his December 2013 eligibility ruling<sup>[4]</sup></li> </ul> </li> </ul>	<b>NO</b>

**Presumption of unfair discrimination has not been rebutted**



# Unfair Discrimination Analysis

## Measuring the Extent of Disparate Treatment

# Primary Discrimination Mechanisms

## The Plan generates excessively disparate recovery outcomes favoring pensioners

- The Plan provides an outcome to pension claimants that, in comparison to COP claimants, is even greater than the 50 percentage point recovery differential quantified in the Plan documentation. The Debtor uses two primary mechanisms to generate this disparate outcome

### I. Inflating the PFRS & GRS Claims

- Increasing PFRS and GRS estimated claim amounts materially above the most recent actuarially assessed values allows the City to show a smaller percentage recovery against a larger claim amount
- The net effect is to show the PFRS and GRS pension claimants getting only a 60% recovery on their claims when under the prior actuarial values, they would each be receiving over 100% recovery on their prior actuarial claims

### II. Not Accounting for Contingent Value Recovery Mechanisms

- Unlike other unsecured creditors, pension claimants also receive the benefit of recovery mechanisms in the form of (i) restoration payments in the event that pension investments exceed performance expectations and funding levels subsequently exceed targeted amounts and (ii) DWSD contingent value rights in the event that a qualifying DWSD transaction is consummated
- These recovery mechanisms allow for PFRS and GRS pension claimants to potentially recover in excess of 100% of their claim amounts, even when measured against the inflated claim amounts shown in the City's Plan



# Shifting Consideration to PFRS & GRS Pension Claims

- Total estimated creditor recoveries have increased significantly from approximately \$1.4 billion in distributable value in the June 2013 Proposal (see Appendix [A] for further detail) to \$2.8 billion in the Plan<sup>[1,2]</sup>
- While the June 2013 Proposal contemplated pari passu treatment between COPs and the PFRS and GRS pension claimants, the current Plan contemplates a highly skewed distribution to the PFRS and GRS pension claimants using the City's calculations

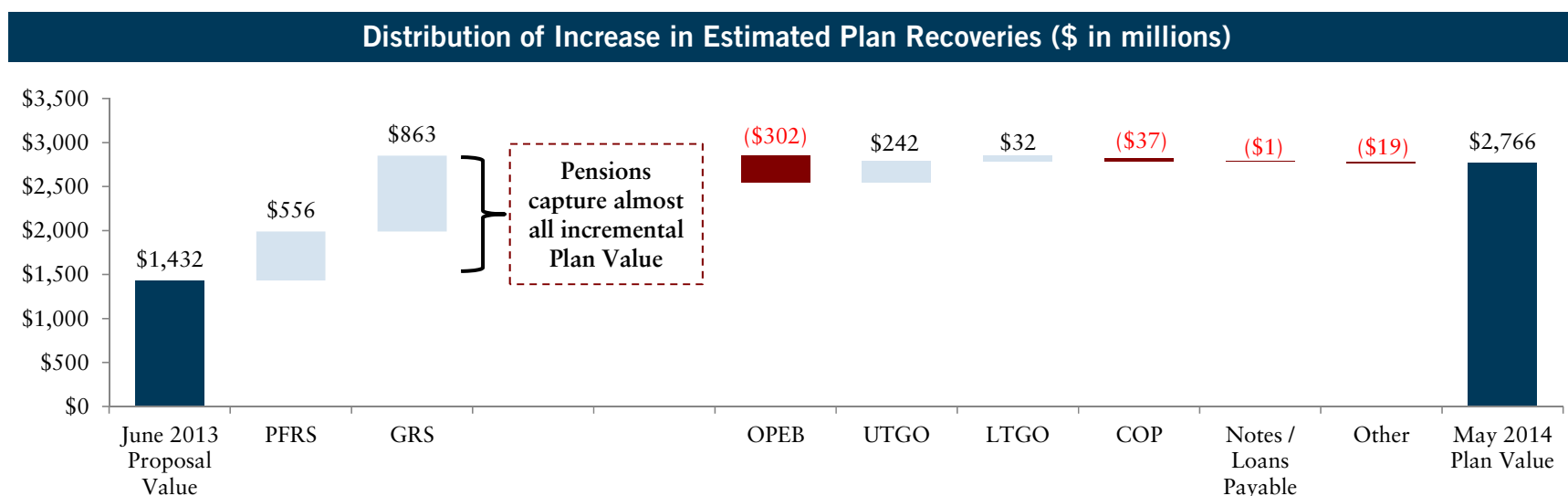
## Recovery Summary – Unsecured Creditors (\$ in millions)

	June 2013 Proposal <sup>[1]</sup>			Plan of Adjustment <sup>[2]</sup>			Recovery % Inc. / Dec.
	Claim Amount	Estimated Recoveries		Claim Amount	Estimated Recoveries		
		(\$)	(%)		(\$)	(%)	
PFRS Pension	\$1,437	\$180	13%	\$1,250	\$735	59%	309%
GRS Pension	2,037	255	13%	1,879	1,118	60%	339%
OPEB	5,718	715	13%	4,303	413	10%	-42%
Total Retiree Creditors	\$9,192	\$1,150	13%	\$7,432	\$2,267	30%	97%
UTGO Claims	\$369	\$46	13%	\$388	\$288	74%	525%
LTGO Claims	\$161	\$20	13%	\$164	\$52	32%	160%
COP	1,429	179	13%	1,473	141	10%	-21%
Notes / Loans Payable	34	4	13%	34	3	10%	-23%
Other Unsecured Items	265	33	13%	150	14	10%	-57%
Other Unsecured Creditors	\$1,727	\$216	13%	\$1,657	\$159	10%	-26%

Note: \$1.4 billion creditor recoveries under June 2013 Proposal assumes a 5% discount rate and full repayment of the \$2.0 billion principal amount. Note that per the terms of the Limited Recourse Participation Notes as described in the June 2013 Proposal, the City is not obligated to repay the principal amount. Plan recoveries for recipients of the New B Notes reflect (i) a 5% discount rate consistent with the rate used by the City to calculate New B Notes recoveries in its Plan and (ii) COP claims asserted at 100% of principal value

# Pensions Profit Disproportionately

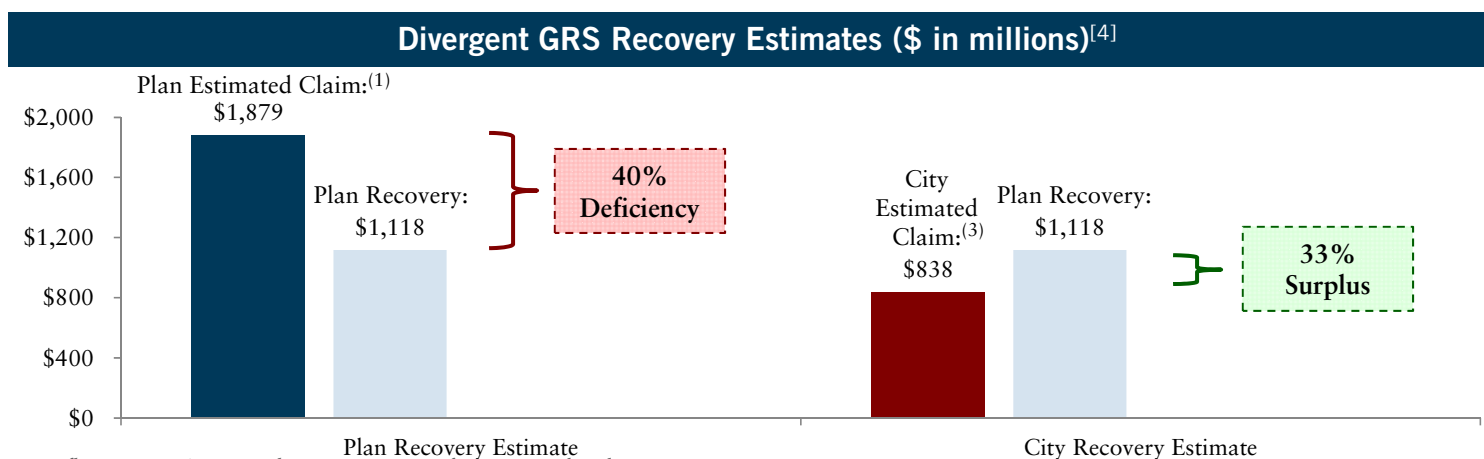
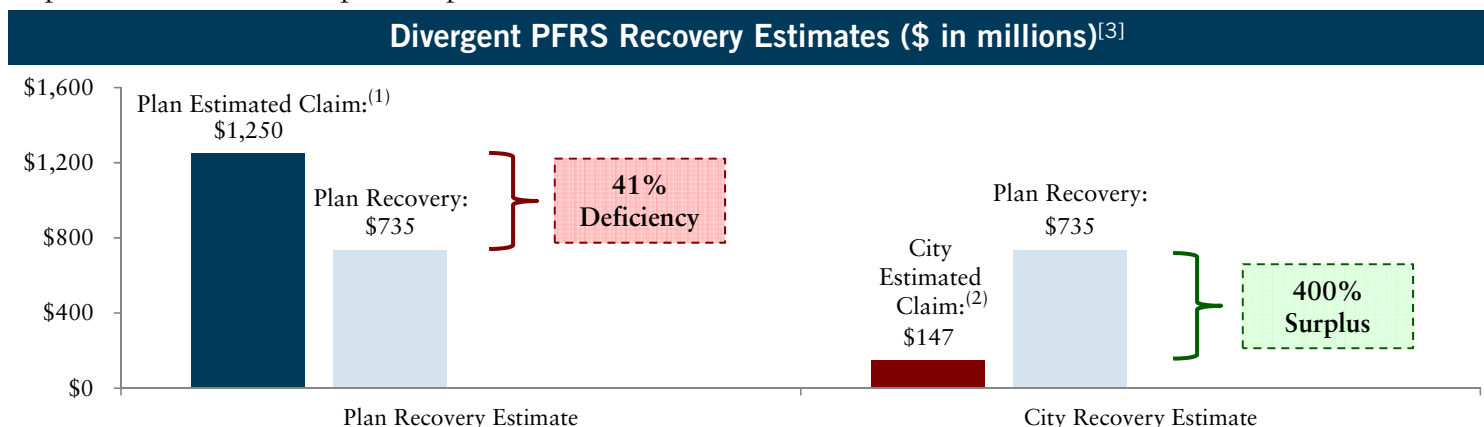
- Another way of illustrating the extent to which the pensions profited from bankruptcy negotiation is to show how much of the incremental Plan recovery value was captured by the PFRS and GRS pension claimants
- From the June 2013 Proposal to the debtor's final proposed Plan, the City's estimated Plan value distribution increased approximately \$1.3 billion – almost all of which is captured by the pensions



*Note: \$1.4 billion creditor recoveries under June 2013 Proposal assumes a 5% discount rate and full repayment of the \$2.0 billion principal amount. Note that per the terms of the Limited Recourse Participation Notes as described in the June 2013 Proposal, the City is not obligated to repay the principal amount. Plan recoveries for recipients of the New B Notes reflect (i) a 5% discount rate consistent with the rate used by the City to calculate New B Notes recoveries in its Plan and (ii) COP claims asserted at 100% of principal value*

# Inflating PFRS & GRS Claims

- Under the Plan, the size of the estimated PFRS and GRS pension claims were increased by 750% and 125%, respectively, from the last actuarial valuation estimates<sup>[3,4]</sup>
- The increase in claims size has the effect of distorting recovery percentages – because the claim sizes have been increased so dramatically, the PFRS and GRS plans appear to be receiving less than full (or par) recovery
- If the respective PFRS and GRS Plan recovery values were applied to the most recent actuarial claims, the Plan recoveries would generate greater than par recoveries for both pension plans



(1) Reflects a 6.75% assumed investment rate of return per the Plan

(2) Reflects an 8.00% assumed investment rate of return per the 2012 PFRS actuarial valuation

(3) Reflects a 7.90% assumed investment rate of return per the 2012 GRS actuarial valuation

# Lower Discount Rate Unsubstantiated

- A major factor inflating the PFRS and GRS pension claims is the City's use of a lower 6.75% discount factor in calculating the claim
- The Plan's lower discount rate is both materially lower than discount rates used by many other cities (as well as the state of Michigan), and also somewhat arbitrary
  - The City states it was a negotiated result but provides little further support for the specific rate chosen
  - Additional support is critical because a modest increase (closer to the average of other cities) would materially reduce the PFRS and GRS pension claim amounts, thereby increasing recovery estimates
  - Moreover, because the chosen rate is materially lower than the average rate for comparable plans (as well as the City's previous discount rate assumptions of 8.0% and 7.9% for the PFRS and GRS plans, respectively), the change to a lower rate is not something other unsecured creditors could have reasonably expected on a pre-petition basis

## Selected Public Pension Plans – Public Safety<sup>[5]</sup>

Pension Plan	Plan Discount Rate	Differential
Detroit PFRS	6.75%	-
DC Police & Fire	7.00%	0.25%
Houston Firefighters	8.50%	1.75%
Nevada Police Officer and Firefighter	8.00%	1.25%
New Jersey Police & Fire	8.25%	1.50%
NY State & Local Police & Fire	8.00%	1.25%
Ohio Police & Fire	8.25%	1.50%
South Carolina Police	8.00%	1.25%
Average for Sample Set	8.00%	1.25%

## Selected Public Pension Plans – General<sup>[5]</sup>

Pension Plan	Plan Discount Rate	Differential
Detroit GRS	6.75%	-
City of Austin ERS	7.75%	1.00%
Denver Employees	8.00%	1.25%
LA County ERS	7.75%	1.00%
Minneapolis ERF	6.00%	-0.75%
New York City ERS	8.00%	1.25%
Phoenix ERS	8.00%	1.25%
San Francisco City & County	7.75%	1.00%
Average for Sample Set	7.61%	0.86%
Michigan SERS	8.00%	1.25%

# Lower Discount Rate Unsubstantiated (cont.)

- Further to the point of reasonable market discount rate expectations, the comments of various market analysts on an earlier iteration of the Plan (when the assumed pension discount rate was 7%) are illustrative:

*“Detroit’s pension is actually well-funded, so what’s all the fuss?”*

*“Orr and others say the city’s pension system represents \$3.5 billion of that debt and the message since the July bankruptcy filing has been that the system is a big part of the problem. But the city’s two pensions are actually a combined 91 percent funded (80 percent funded plans are considered financially healthy), according to Morningstar’s combined 2011 valuation of the public employee pension and police / fire pension.”*

*“Orr’s assumptions for the plan’s unfunded liability uses a lower, more conservative market rate to value the assets and liabilities. That choice results in the plans having fewer assets and more liabilities when compared with the actuarial valuation given by the pension system.”*

Liz Farmer,  
**GOVERNING Magazine**<sup>[6]</sup>

*“Using the market rate is not exactly standard practice. While using it is the correct method to identify a liability in a point in time...it does magnify fluctuations in the bond market. It presents a very drastically different point of view on the fundamental fiscal health of plans based on the actuarial method.”*

Rachel Barkley,  
**Morningstar Municipal Credit Analyst**<sup>[6]</sup>

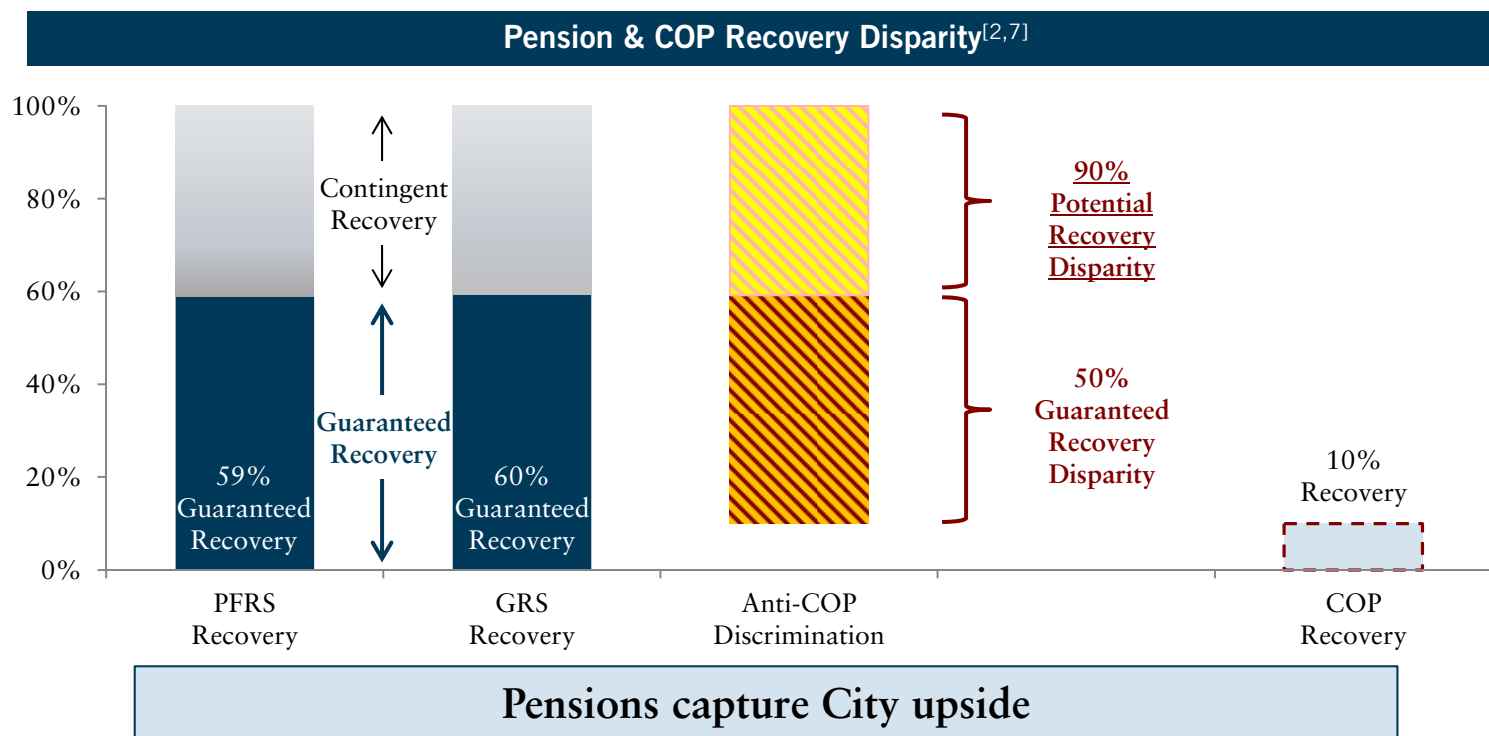
## Detroit PFRS & GRS Liabilities – 2011 Actuarial Valuation vs. Final Plan Assumption (\$ in millions)

	2011 Actuarial Valuation <sup>[6]</sup>			Emergency Manager Assumptions <sup>[6]</sup>		
	Fiscal Year 2011			Fiscal Year 2013		
	PFRS	GRS	Aggregate	PFRS	GRS	Aggregate
Investment Return Assumption	8.00%	7.90%	-	7.00%	7.00%	-
Amortization Period	30 Years	30 Years	-	15 Years	18 Years	-
Unfunded Liability	\$3.9	\$639.9	\$643.8	\$1,437.0	\$2,037.0	\$3,474.0
Funded Ratio	99.9%	82.8%	91.4%	67.0%	50.5%	59.0%



# Disparate Treatment of COP Claims

- The City's Plan estimates COP holders will recover 10% of the value of their claim while PFRS and GRS pension claims are estimated to recover 59% and 60%, respectively<sup>[2]</sup>
- While the discrepancy in estimated recoveries in the Plan is already large, the full extent of disparate treatment in favor of the PFRS and GRS pension plans could be even greater as various contingent value recovery mechanisms create an opportunity for full PFRS and GRS recovery over time<sup>[7]</sup>
- The primary contingent value recovery mechanisms are: (i) restoration payments in the event that pension investments exceed performance expectations and funding levels subsequently exceed targeted amounts and (ii) DWSD contingent value rights in the event that a qualifying DWSD transaction is consummated



Note: Recoveries for COP claims reflect (i) a 5% discount rate consistent with the rate used by the City to calculate New B Notes recoveries in its Plan and (ii) COP claims asserted at 100% of principal value

# Actual Value of New B Notes Recoveries

## The City overstates the estimated recoveries for recipients of New B Notes

- The \$632 million New B Notes are subject to inherently greater risk of recovery from City cash flows, substantially diminishing the actual value to be received by recipients of the New B Notes

### The New B Notes Are Mispriced

- The interest rate of the New B Notes fails to reflect the risk inherent in the security
- Consequently the true value of the New B Notes is substantially less than what the City purports it to be
- The City itself acknowledges such a risk in its disclosure statement, stipulating that because of potentially limited market interest in the New B Notes, “potential purchasers may demand discounts to the par amount of obligations before a potential purchaser would be willing to purchase City debt of any kind”<sup>[8]</sup>

### Value of New B Notes Consideration is Overstated

- Because COP claimants’ (and other unsecured financial creditors’) recoveries are predicated entirely on the New B Notes, actual recoveries are considerably less than recoveries stated by the City in its Plan
- To align actual recoveries with stated recoveries for New B Notes recipients, the City would need to either:
  1. Increase the interest rate to reflect the appropriate discount rate (i.e., the expected yield of the New B Notes upon issuance); or
  2. Increase the initial principal amount to reflect the fact that the currently contemplated coupon, maturity and security will cause the New B Notes to trade at a significant discount to par

### Additional Features Considered to Price Note Accurately

- To determine an appropriate discount rate and thus value the New B Notes consideration, I considered the following factors:
  1. The credit rating of post-emergence Detroit, per established municipal credit analysis guidelines and criteria used by Moody’s and S&P;
  2. The yield for an index of comparably rated securities; and
  3. An assessment of the City’s projected debt service coverage over the 30-year term of the New B Notes

# Pricing of New B Notes

- Despite the fact that the 5% discount rate the City uses to value the New B Notes reflects a level of risk comparable to that of financially strong, high credit quality municipalities, the City's expert witness conceded in his deposition that upon emergence, Detroit should have a credit profile that is worse than that of an "A"-rated municipality<sup>[9]</sup>

*"I don't think Detroit will deserve a single "A" rating as a general obligation bond holder [sic] until it has proven that it can operate in a financially responsible way, that the tax base is improving and that the general economic conditions of the area are also improving."*

**Kenneth Buckfire – July 16, 2014<sup>[9]</sup>**

- As a critical determinant in the underwriting and subsequent investor pricing of debt securities, credit ratings are broadly accepted by the municipal bond market as a comprehensive assessment of the relative credit quality of an issuer
- I conducted an analysis of Detroit's post-emergence credit quality using general frameworks established by Moody's and S&P to evaluate U.S. municipal general obligation issuers, which are summarized on the following pages
- My analysis corroborates Mr. Buckfire's testimony that the credit rating of the New B Notes would fall near the high yield / investment grade cut-off
  - As such, in determining an appropriate discount rate, I examined yields of general obligation securities rated one notch above high yield or below
  - Additionally, it is important to consider that since the City has categorized the New B Notes to be no stronger than general obligations, the capital markets may actually deem them to be weaker obligations

# Moody's Credit Rating Considerations

Moody's Rating Methodology <sup>[10]</sup>			
Factors	Subfactors	Description	Weight
<b>Economy/Tax Base (30%)</b>	■ Tax base size ("full value")	■ Market value of taxable property accessible to municipality	10%
	■ Full value per capita	■ Tax base size divided by total population	10%
	■ Wealth	■ Median family income as a % of U.S. median	10%
<b>Finances (30%)</b>	■ Fund balance	■ Available fund balance as a % of operating revenues	10%
	■ Fund balance (5-year trend)	■ Available fund balance in most recent year minus available fund balance 5 years earlier, as a % of most recent year's operating revenue	5%
	■ Cash balance (% of revenue)	■ Operating funds net cash as a % of operating revenues	10%
	■ Cash balance (5-year trend)	■ Cash balance in most recent year minus cash balance 5 years earlier, as a % of most recent year's operating revenue	5%
<b>Management (20%)</b>	■ Institutional framework	■ Legal ability, per constitutionally and legislatively conferred powers, to match revenues with expenditures	10%
	■ Operating history	■ 5 year average of operating revenues divided by operating expenditures	10%
<b>Debt/Pensions (20%)</b>	■ Debt to full value	■ Net direct debt as a % of full value	5%
	■ Debt to revenues	■ Net direct debt as a % of operating revenues	5%
	■ Moody's-adjusted net pension liability (3-year average) to full value	■ 3 year average of adjusted net pension liability as a % of full value	5%
	■ Moody's-adjusted net pension liability (3-year average) to revenue	■ 3 year average of adjusted net pension liability as a % of operating revenues	5%

# S&P Credit Rating Considerations

S&P Rating Methodology <sup>[11]</sup>			
Factors	Subfactors	Description	Weight
<b>Economy (30%)</b>	■ Total market value per capita	■ Total market value of taxable property accessible divided by total population	15%
	■ Projected per capita effective buying income ("EBI") as a % of US projected per capita EBI	■ EBI divided by total population	15%
<b>Financial Measures (30%)</b>	■ Liquidity	■ Function of government available cash, as a % of both debt service funds and total expenditures	10%
	■ Budgetary performance	■ Function of total government funds net result and general fund net result as a % of expenditures	10%
	■ Budgetary flexibility	■ Available fund balance as a % of expenditures	10%
<b>Management (20%)</b>	■ Based on S&P's Financial Management Assessment ("FMA") score	■ FMA score composed of seven measurements of performance ranging from long-term financial and capital planning to investment and debt management policies	20%
<b>Debt &amp; Contingent Liabilities (10%)</b>	■ Net direct debt as a % of revenue	■ Total debt as a % of total government revenues	5%
	■ Total debt service as a % of expenditures	■ Total government debt service funds as a % of revenues	5%
<b>Institutional Framework (10%)</b>	■ Predictability of revenues and expenditures	■ Ability to effectively forecast revenues and expenditures	2.5%
	■ Revenue and expenditure balance	■ Ability to finance services provided (revenue raising capability)	2.5%
	■ Transparency and accountability	■ Provision of timely and relevant financial information and frequent and timely audits	2.5%
	■ System support	■ The extent to which local governments receive extraordinary support from the state government	2.5%



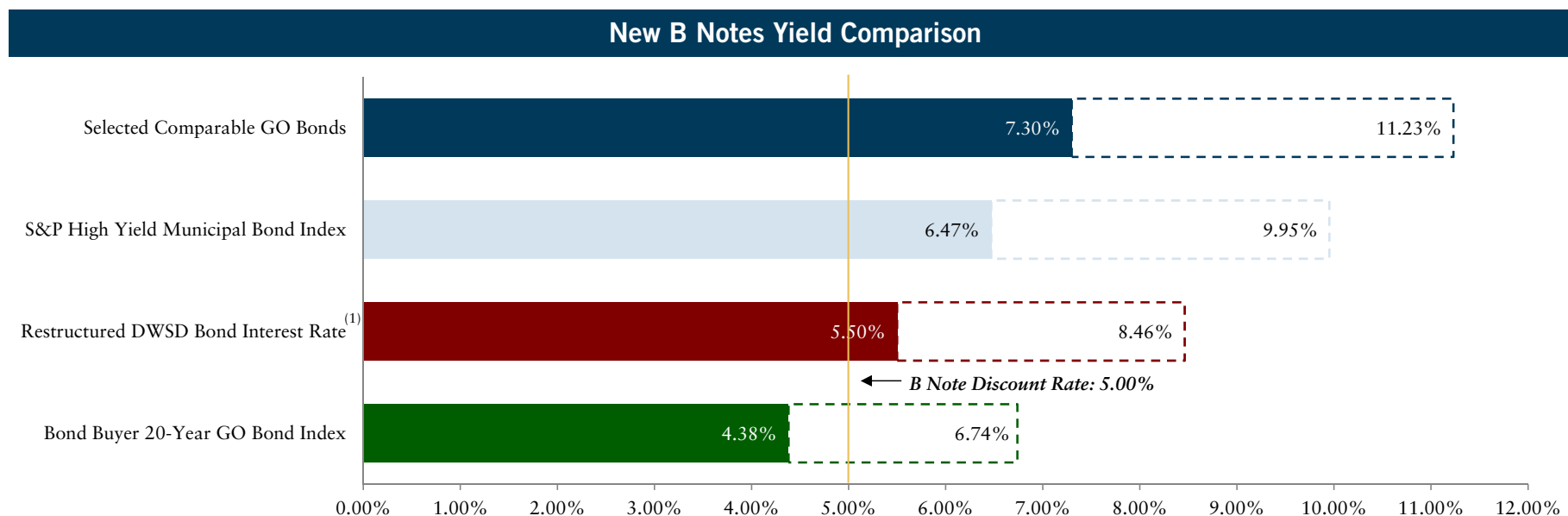
# Implied City Credit Rating

- Using the Moody's and S&P credit rating frameworks, the post-emergence Detroit [could] be rated one notch below investment grade

Illustrative Moody's Rating Scorecard				Illustrative S&P Rating Scorecard			
Factors	Initial Evaluation	Weight	Score	Factors	Initial Evaluation	Weight	Score
<b><u>Economy/Tax Base</u></b>		30%		<b><u>Economy</u></b>		30%	
Tax base size (full value)	■ \$7.3 billion	10%	Aa	Total market value per capita	■ \$10,426	15%	B
Full value per capita	■ \$10,426	10%	Ba	Projected effective buying income	■ 53%	15%	B
Wealth (median family income)	■ 46%	10%	Ba				
<b><u>Finances</u></b>		30%		<b><u>Financial Measures</u></b>		30%	
Fund balance / revenue	■ -19%	10%	≤B	Liquidity	■ 5%, 46%	10%	B
Fund balance (5-year trend)	■ -2%%	5%	Baa	Budgetary performance	■ -12%, -12%	10%	B
Cash balance / revenue	■ 7%	10%	A	Budgetary flexibility	■ 5%	10%	B
Cash balance (5-year trend)	■ -7%	5%	Baa				
<b><u>Management</u></b>		20%		<b><u>Management</u></b>		20%	
Institutional framework	■ "Very Poor"	10%	≤B	S&P's Financial Management Assessment	■ "Very Weak"	20%	B
Operating history	■ 0.9x	10%	Ba				
<b><u>Debt/Pensions</u></b>		20%		<b><u>Debt &amp; Contingent Liabilities</u></b>		10%	B
Debt / full value	■ 23%	5%	≤B	Net direct debt / revenue	■ 140%	5%	B
Debt / revenue	■ 1.5x	5%	A	Total debt service / expenditures	■ 10%	5%	B
Adjusted net pension liability (3-year average) / full value	■ "Moderate"	5%	A				
Adjusted net pension liability (3-year average) / revenue	■ "Moderate"	5%	A	<b><u>Institutional Framework</u></b>		10%	
				Revenue and expenditure predictability	■ "Weak"	2.5%	BBB+
				Revenue and expenditure balance	■ "Adequate"	2.5%	A+
				Transparency and accountability	■ "Strong"	2.5%	AA
				System support	■ "Strong"	2.5%	AA
<b>Implied Credit Rating</b>		100%	Baa3	<b>Implied Credit Rating</b>		100%	BB

# New B Notes Yield Comparison

- The City's assumed discount rate of 5% implies that the credit risk of the New B Notes is similar to that of investment grade, secured municipal bonds
- Additionally, because the interest payments on the New B Notes are taxable, the New B Notes' 5% discount rate should be compared to tax equivalent yields, further highlighting the New B Notes' understated risk
- Given the note's narrow debt service coverage, unsecured and non-tax exempt status, I would expect the market to demand a coupon of at least 9%



Note: Dotted lines represent the tax equivalent yield assuming a 35% tax rate. The conversion formula is:  $\text{Tax Equivalent Yield} = \text{Tax Free Yield} / [1 - \text{Assumed Tax Rate}]$

(1) Reflects high range of DWSD bond interest rates

# Selected Municipalities Ratings Comparison

- Although a comparable assessment of municipalities and individual municipal security credit yields is not commonplace in the municipal capital markets, I nonetheless examined yields of securities in other municipalities hovering at or below the investment grade threshold<sup>[12]</sup>
- A review of a Bloomberg screen of relevant municipal debt obligations further supports the assertion that the New B Notes consideration is mispriced and would trade at a potentially substantial discount to reflect the appropriate risk
- Additionally, based on the fact that the New B Notes will be unsecured obligations of the City, I believe they are at least as risky as general obligation bonds and likely even more risky based on the Debtor's treatment and classification of general obligation debt versus general unsecured liabilities under the Plan

**Bloomberg Screen: Municipalities Ratings Comparison**

City	Description	Issue Date	Rating		Coupon	Maturity	Yield	Adjusted Yield <sup>(1)</sup>
			Moody's	S&P				
Allen Park, MI	General Obligation	2009	NA	B-	7.3%	2039	8.7%	13.3%
Allentown, PA	General Obligation	2004	A3	BBB+	5.3%	2034	6.4%	9.8%
Bridgeview, IL	General Obligation	2005	NA	BBB+	5.1%	2036	7.3%	11.3%
Chicago, IL	General Obligation	2010	Ba1	A+	6.3%	2040	6.2%	9.6%
East Pennsboro, PA	General Obligation	2010	Baa2	NA	6.7%	2039	6.9%	10.6%
Festival Ranch, AZ	General Obligation	2009	NA	BBB	8.6%	2034	7.6%	11.6%
Le Center, MN	General Obligation	2010	B1	NA	4.5%	2038	6.3%	9.7%
New Orleans, LA	General Obligation	2014	A3	BBB+	6.1%	2043	5.6%	8.6%
North Las Vegas, NV	General Obligation	2010	Ba3	BB-	6.6%	2040	9.3%	14.4%
Puerto Rico	General Obligation	2009	Ba2	BB+	5.8%	2038	8.8%	13.5%
Average Yield							7.3%	11.2%

Note: Bloomberg screen criteria consists of (i) general obligation debt; (ii) credit rating of Baa1 (Moody's) / BBB+ (S&P) or below; and (iii) maturities between 20 and 30 years

(1) Reflects tax equivalent yield assuming a 35% tax rate

# Debt Service Coverage Considerations

- A debt service coverage ratio is a metric used to examine an entity's ability to service its debt with cash flows from operations
  - Typically, the metric is calculated as net operating income divided by total debt service
- The City's projected debt service coverage indicates significant credit risk with respect to the City's ability to service its proposed UTGO, LTGO and New B Notes
- Similar to comparable issuer / security analysis, debt service coverage ratios have also not typically been used to evaluate and price risk associated with general obligation-type bonds
  - Historically, this has been due to an issuer's pledge, either unlimited or limited, to increase tax rates to the extent necessary to meet its debt obligations
  - The City has not provided a general obligation pledge with the proposed New B Notes<sup>[13]</sup>
  - It is expected that the New B Notes will be serviced solely by the City's forecasted General Fund cash flow available for debt service
- Because the Plan effectively elevates pensions (in priority of recovery) over both general obligation bondholders and other unsecured financial creditors alike, I have calculated cash flow available for debt service as General Fund operating revenues less the City's operating expenditures and other reinvestment and restructuring related expenditures which the City has deemed necessary
  - An abstract of the comprehensive ratio analysis in Appendix [B] reveals the City's projected debt service coverage ratio is very thin through the next 10 years with several years in which the ratio is below 1.0x

City of Detroit – Illustrative Debt Service Coverage Ratio (\$ in millions)<sup>[14]</sup>

(\$ in millions)	Fiscal Year Ended June 30										10 Year Totals		
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	'14 - '23	'24 - '33	'34 - '43
Operating cash flow available for debt service	\$129.0	\$25.1	\$99.8	\$143.6	\$158.7	\$148.3	\$139.1	\$138.8	\$152.8	\$170.7	\$1,305.9	\$1,717.2	\$1,419.5
Total debt service	(\$36.1)	(\$166.2)	(\$124.2)	(\$124.2)	(\$123.2)	(\$149.7)	(\$161.7)	(\$158.5)	(\$142.9)	(\$137.1)	(\$1,323.7)	(\$1,012.3)	(\$517.8)
Debt service coverage ratio	3.6x	0.2x	0.8x	1.2x	1.3x	1.0x	0.9x	0.9x	1.1x	1.2x	1.0x	1.7x	2.7x

# New B Notes Value Assessment

- A final element of risk with respect to the New B Notes is the back-end weighted nature of the repayment obligations with no principal amortization due in the first 10 years
- Reflecting all of the risk factors identified, I have selected a 9% tax equivalent discount rate to value the New B Notes
- While a higher rate (and lower corresponding New B Notes value) can be empirically justified, I have chosen to be conservative in valuing the New B Notes consideration at \$353 million

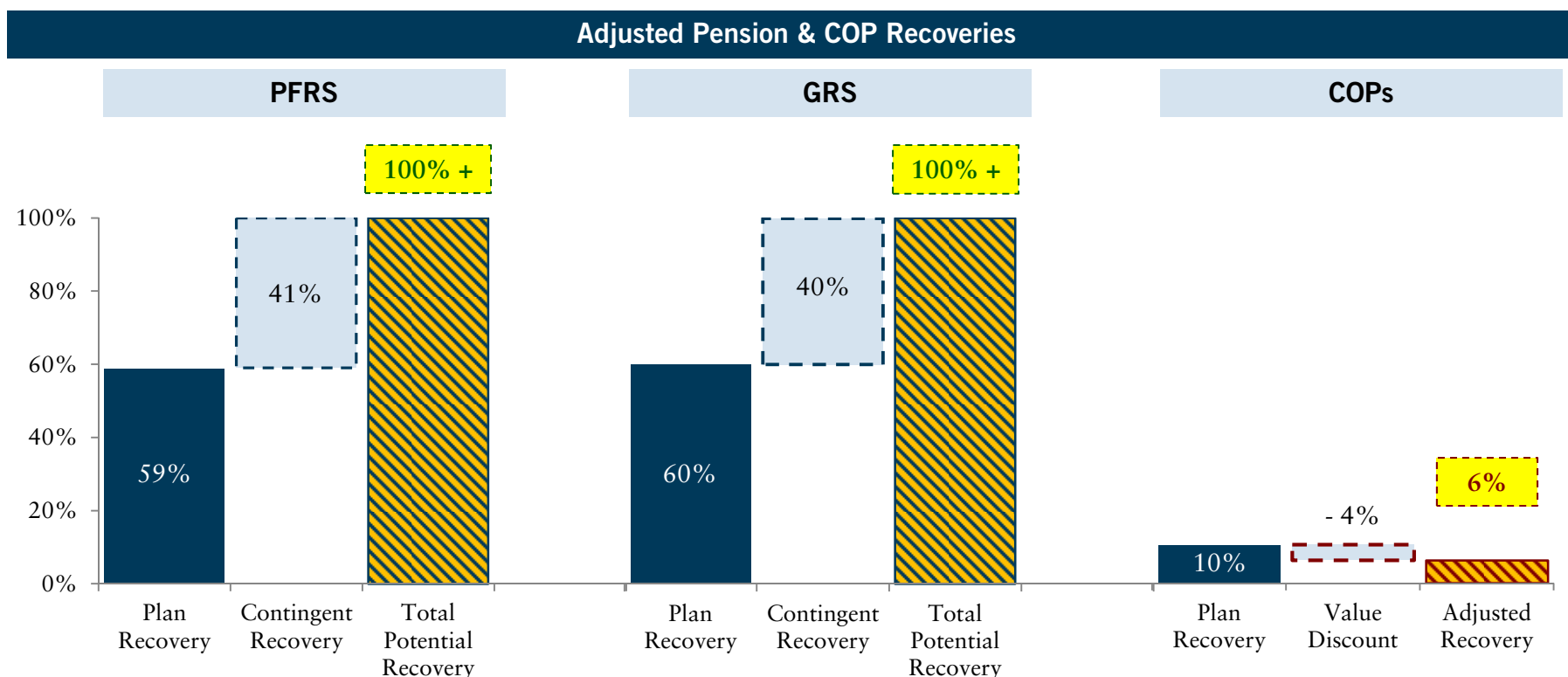
Implied Value of New B Notes				
	Applicable Discount Rate / Yield	Tax Equivalent Rate <sup>(1)</sup>	Implied Value of Note	Implied Class 9 Recovery
City's Discount Rate	■ 5.00%	■ 5.00%	■ \$564.8 million	■ 9.8%
S&P High Yield Municipal Bond Index Yield <sup>[15]</sup>	■ 6.47%	■ 9.95%	■ \$320.3 million	■ 5.6%
Selected General Obligation Bond Average Yield <sup>[16]</sup>	■ 7.30%	■ 11.23%	■ \$283.0 million	■ 4.9 %
Selected Discount Rate	■ 5.85%	■ 9.00%	■ \$353.1 million	■ 6.1%

(1) Assumes a 35% tax rate



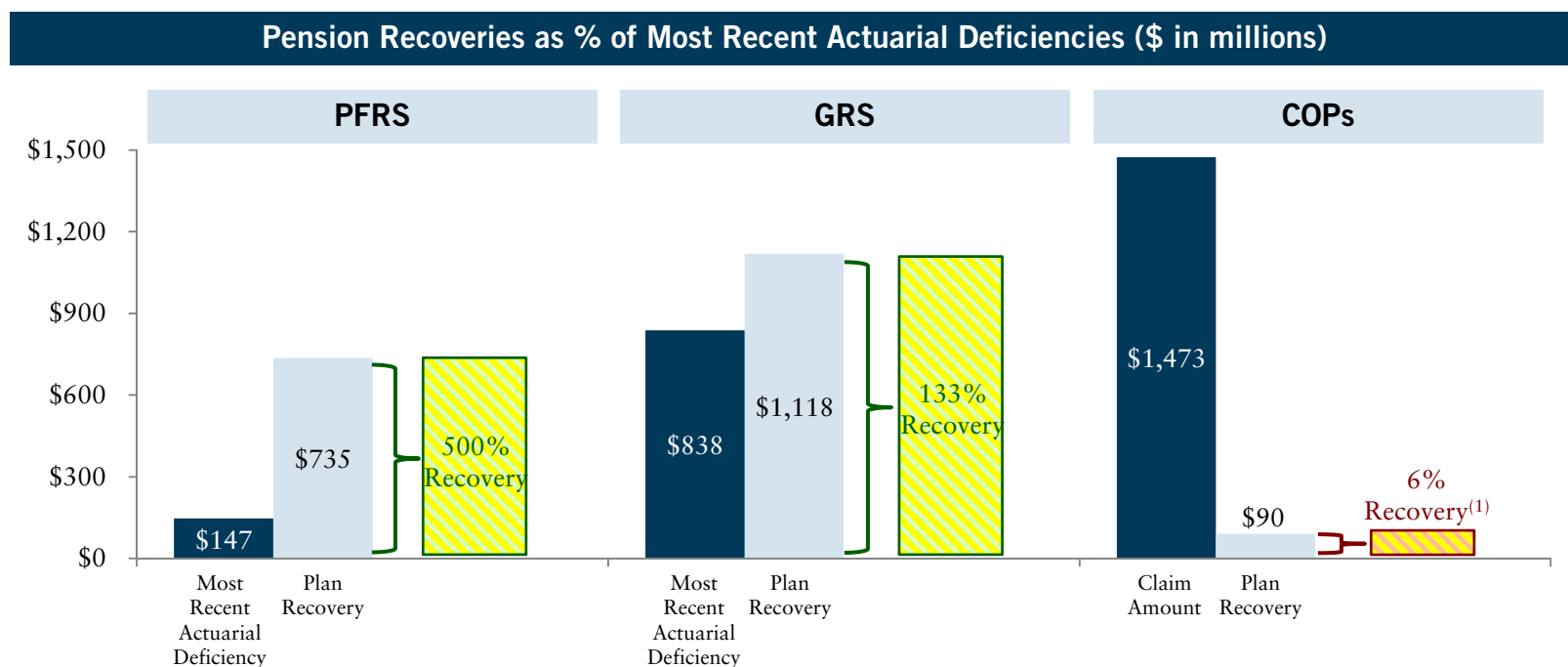
# COP Recoveries vs. Pension Recoveries

- The total disparity in recovery percentages of Class 9 claimants and Classes 10 and 11 claimants is even greater than presented in the City's Plan after accounting for (i) appropriate pricing of the New B Notes using a higher discount rate and (ii) additional recoveries for pension claims from contingent value recovery mechanisms
  - While PFRS and GRS claims are projected to receive 59% and 60% recoveries, respectively, under the City's projections, contingent recoveries could allow pension claimants to recover in excess of 100% of their stated claim amounts
  - Conversely, while COPs claims are projected to receive a 10% recovery under the City's Plan, applying a more appropriate discount rate to price the New B Notes would lower recoveries for COPs claims to 6%



# COP Recoveries vs. Pension Recoveries (cont.)

- If the City's prior actuarial assumptions are used to calculate pension recoveries, the recovery differential between pension and COPs is even more skewed
- As indicated previously, under the City's most recent actuarial calculation, the pensions would be receiving well in excess of 100% recoveries on their calculated deficiency amounts
- In comparison to COP recoveries, this produces more than a 100% recovery differential



(1) COP recoveries reflect (i) a 9% discount rate to value the New B Notes Consideration and (ii) COP claims asserted at 100% of principal value



# Unfair Discrimination Analysis

## Comparing Recovery Source Qualities

# Quality of Cash Flow Recovery

## The Plan directs superior sources of recovery to pensioners

- Apart from the quantitative risk factors assessed on the preceding pages, there are two primary qualitative risk factors that render the New B Notes consideration inferior to the consideration being offered to both pension claims
  - i. **Diversity of recovery sources** – As illustrated, pension recoveries are being provided by many more sources of recovery than just the City’s debt service capacity
    - For example, pension claims will receive distributions (on an immediate as well as continuing basis) from Foundation, DIA and State proceeds, each of which have been acknowledged by the Debtor’s expert as having a superior credit quality relative to the New B Notes

*“It would be appropriate...with the State of Michigan, since they are a double A rated credit, to use a very low discount rate...Likewise, all the foundations, because they are large, and are well funded and have no...external debt, would also merit a very low discount rate...The individual members of the DIA board of trustees...are all very wealthy local business people and other professionals who probably would merit an equally low discount rate on their contributions...”*

Kenneth Buckfire – July 16, 2014<sup>[1]</sup>

- ii. **Contingent Value Participation** – The ability for pension claimants to receive incremental (up to par) recovery tied to future City financial performance is a major qualitative advantage over COP and other general unsecured claims, which remain static no matter how robust the City’s financial recovery might be

## Summary of Cash Flow Recovery Quality – Pension vs. New B Notes<sup>[2]</sup>

Claim	Source of Recovery					Restoration Payments	DWSD Contingent Value Rights	Timing of Payment
	New B Notes	State Settlement	Foundation Proceeds	DIA Contribution	Cash Payment			
PFRS & GRS	■ No	■ Yes	■ Yes	■ Yes	■ Yes	■ Yes	■ Yes	■ Begins immediately
COPs	■ Yes	■ No	■ No	■ No	■ No	■ No	■ No	■ Over 30 years





# Unfair Discrimination Analysis

## Assessment of Defined Benefit Replacement Plan

# Generous Defined Benefit Replacement Plan

## The defined benefit replacement plan is comparatively generous

- Under the Plan, City employees will receive contributions to a replacement 401(k)-style plan that are comparatively generous relative to similar private and government sector plans (including the plan for the benefit of Michigan's teachers), which provides an effective counter-balance to potential motivational challenges that may arise among the City's workforce if pension claims were further impaired
- A high level comparison to other municipal defined contribution plans indicates that the employer contribution contemplated by the City's new defined contribution pension plans that will supplement the frozen defined benefit plans exceeds the sample average (by a substantial margin in the case of the PFRS employer contribution)

### Average State Defined Contribution Plan<sup>[1]</sup>

Plan Name	Type of Plan	Plan Year	Employee Contribution	Employer Contribution <sup>(1)</sup>	
Alaska PERS - DC	Defined Contribution	2009	8.0%	5.0%	
Alaska TRS - DC	Defined Contribution	2009	8.0%	7.0%	
Colorado PERA - PERAChoice	Defined Contribution	2009	8.0%	10.2%	
Florida RS - FRS Investment Fund	Defined Contribution	2009	NA	9.0%	
Indiana PERF - Annuity Savings Account	Combination	2009	3.0%	0.0%	
Indiana TRF - Annuity Savings Account	Combination	2009	3.0%	0.0%	
Michigan Public Schools - DC	Combination	2010	3.0%	0.0%	
Michigan SERS - DC	Defined Contribution	2009	NA	7.0%	
Montana PERS - DCRP	Defined Contribution	2009	6.9%	4.2%	
North Dakota - DCRP	Defined Contribution	2009	4.0%	4.1%	
Ohio PERS - Combined Plan	Combination	2009	10.0%	7.0%	
Ohio STRS - Combined Plan	Combination	2009	10.0%	13.0%	
Oregon PERS - IAP	Combination	2009	6.0%	0.0%	
South Carolina - Optional Retirement Program	Defined Contribution	2009	6.5%	5.0%	
Washington SERS 3 - DC	Combination	2009	5.0%-15.0%	0.0%	
Washington TRS 3 - DC	Combination	2009	5.0%-15.0%	0.0%	
Washington PERS 3 - DC	Combination	2009	5.0%-15.0%	0.0%	
West Virginia TRS - DC	Defined Contribution	2009	4.5%	7.5%	
<b>Average Employer Contribution</b>				<b>4.4%</b>	Positive Variance to Average
City of Detroit - PFRS Active	Defined Contribution	2015	6.0%-8.0%	12.3%	+7.9%
City of Detroit - GRS Active	Defined Contribution	2015	4.0%	5.8%	+1.4%

(1) Includes maximum employer matching of employee contribution



# Municipal vs. Corporate Pension Impairments

- In cases where certain unsecured creditors receive a materially higher recovery than other general unsecured claims, these advantaged creditors typically have the ability to assert strong negotiating leverage over the debtor (relative to other unsecured claims) and as such, may be able to command a higher recovery
- Impairment of trade, pension and other union related claims in the corporate context occurs frequently, despite these claimants having the ability to assert significantly greater leverage than public unions (specifically non-active retirees) in the form of business interruption and threats to strike

## Case Study: A Comparison & Contrast To Airline Bankruptcies

- Airline bankruptcies are a prime example of situations where such creditors (primarily labor unions and specifically, pilots) have the ability to halt all business operations with a single strike. Yet despite this leverage, pension plans have still been terminated and benefits have still been impaired with resulting claims being treated pari passu with other general unsecured claims
  - In the 2005 case of United Airlines, the company's pension plans with nearly 124,000 vested participants and total claims of \$7.4 billion were terminated<sup>[2]</sup>
  - Similarly, the cases of U.S. Airways in 2003 and Delta Air Lines in 2006 resulted in the termination of pension plans with total claim amounts of \$2.8 billion and \$1.6 billion, respectively<sup>[2]</sup>
- In reality, only active employees have the ability to assert leverage through business interruption and threats of strike. In the case of Detroit's active employees, such actions are not permitted under state law<sup>[3]</sup>
  - Furthermore, active employees comprise a relatively small percentage of the total number of pension claimants (approximately 28%) under the PFRS and GRS plans<sup>[4]</sup>
- Even if leverage meriting such a significant disparity in recovery existed for active employees, it makes little sense for such leverage to enhance the recovery of non-active pensioners whose negotiating leverage characteristics do not possess the same attributes
  - For the City to justify enhanced retiree recoveries by suggesting that active employees are "concerned about the extent of impairment of benefits for retired City employees, as active employees will become retirees at some point" is disingenuous and is comparable to suggesting that "critical vendors" receiving special treatment in a Chapter 11 context would be concerned about harsh treatment of other "non-critical" vendors because they too may be considered "non-critical" one day

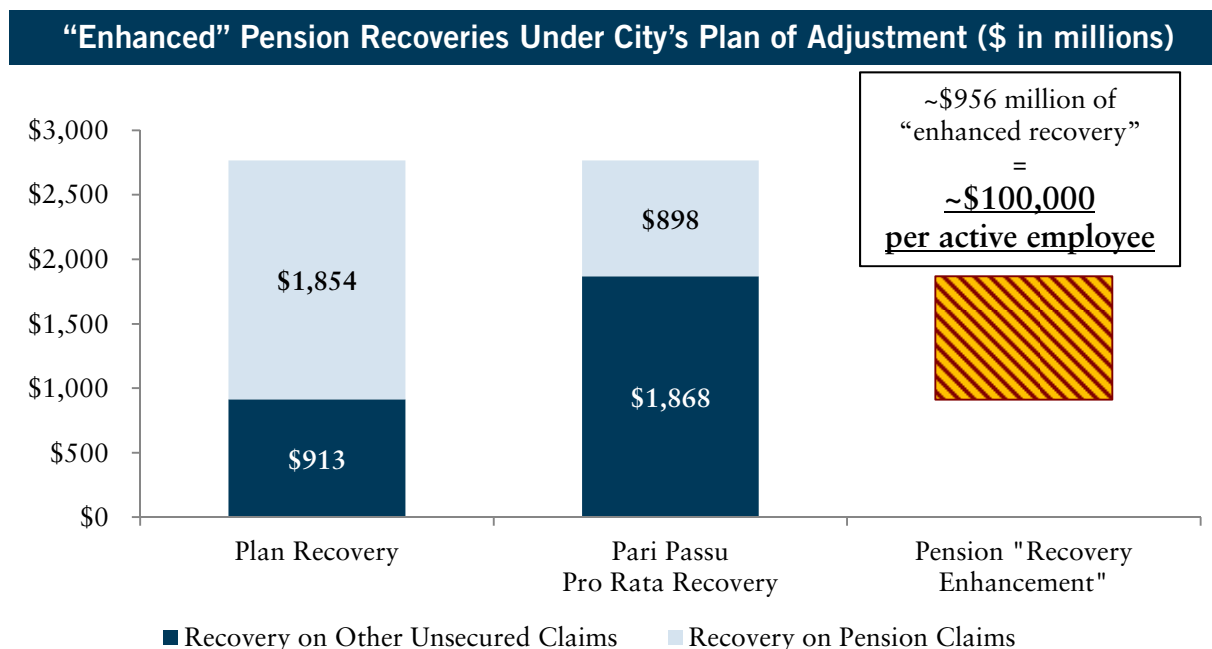
# Municipal vs. Corporate Pension Impairments (cont.)

- It is not uncommon for local and even national municipalities to restructure and ultimately impair pension claims despite the perceived risk that such an action may result in loss of cooperation and motivation by the municipality's active employees
  - Municipalities such as Central Falls have used bankruptcy or other statutory powers to modify pension and post-employment benefits to achieve necessary cost savings<sup>[5]</sup>
- Detroit itself has implemented similar changes on a pre-petition basis for active employees through the implementation of City Employment Terms (or "CET").<sup>[6]</sup> I am not aware of any evidence to suggest that further modification of active employees' (or retired employees') pensions and benefits would suddenly result in a scenario where all active employees (including those without vested pension benefits) would refuse to cooperate and effectively stop working to provide essential services
  - What makes the likelihood of this scenario even more remote is the fact that Michigan law explicitly prohibits public employees from striking or even engaging in conduct that resembles a strike (i.e., absence from work or a failure to perform "in whole or in part from the full, faithful and proper performance of his or her duties...")<sup>[3]</sup>
- Beyond what I have observed in municipal bankruptcies, pensions benefits are impaired (and in many instances terminated) quite regularly in the corporate context where the threat of strikes and risks to employee cooperation and motivation is arguably greater than in the municipal context, especially with heavily unionized companies
  - From 1975 to 2011, approximately 4,300 PBGC-trusted plans with aggregate claim amounts in excess of \$45 billion were terminated<sup>[7]</sup>
- These corporate cases exhibit the same (and in some cases more) risk of employee defection, yet in each and every case the courts and / or the PBGC still provided for the termination of the plan
  - When compared to these corporate cases, Detroit's proposed modifications (especially when considering the generous replacement plan, lack of significant accrued benefit impairment and the presence of available contingent recovery mechanisms) are a far cry from an all-out termination, which suggest that additional cuts are unlikely to result in an across the board loss of employee motivation and cooperation

PBGC Terminations & Claims (1975-2011) <sup>[7]</sup>			
Number of Plans Terminated	Total Claims	Vested Participants	Average Claim
4,292	\$45,671,473,593	1,952,166	\$23,395

# Per Employee Cost of “Enhanced” Pension Recoveries

- In the City’s reply to Plan objections, it states that “by providing a relatively enhanced recovery to holders of Pension Claims, the City is helping to ensure the success of some of its most vital relationships going forward” and that “if the City is to recover from its decades-long downward spiral and to function properly, it must have a workforce that is incentivized and motivated to provide the services that the City needs to function and attract residential and commercial growth”<sup>[8]</sup>
- Using the City’s own recovery estimates under the Plan, I have calculated the level of “enhanced recovery” the City is providing to its Classes 10 and 11 claimants, at the expense of the recoveries of other unsecured claimants
- This \$956 million enhanced recovery that the City is providing to the Classes 10 and 11 claimants reflects the implied cost that is effectively borne by other unsecured creditors to “ensure the success of some of [the City’s] most vital relationships going forward”<sup>[8]</sup>
- Put another way, this enhanced recovery represents a cost of approximately \$100,000 per each of the City’s 9,591 active employees<sup>[9]</sup>



Note: Recoveries from New B Notes reflect a 5% discount rate consistent with the rate used by the City in its Plan



# Unfair Discrimination Analysis

## Lack of Transparency to Financial Creditors



# City Justification For Disparate Financial Creditor Treatment

## The Debtor contends financial creditors' greater underwriting resources are cause for disparate treatment

- Unlike corporate debt underwriting, the municipal debt underwriting process takes place at a distance, with complete reliance on City-produced financial data and no direct access to diligence City government operations
- Immediately prior to and during the bankruptcy proceeding, the Debtor disclosed previously unknown facts and data describing the severity of City government dysfunction and lack of primary data integrity which could not possibly have been known under the municipal debt underwriting model

Operational Deficiencies Revealed in Bankruptcy	
<b>DDOT<sup>[1]</sup></b>	<ul style="list-style-type: none"> <li>■ High employee absenteeism for bus operations (35% in January 2013) results in poor service and higher costs</li> </ul>
<b>Information Technology Services<sup>[2]</sup></b>	<ul style="list-style-type: none"> <li>■ Lack of cross-coordination of 150 contractual employees distributed across 13 departments impedes ability to monitor utilization and eliminate redundancies</li> <li>■ Poor employee attitude towards maintaining complete records hinders performance evaluation</li> </ul>
<b>Grant Management<sup>[2]</sup></b>	<ul style="list-style-type: none"> <li>■ Employees routinely ignore City reporting deadlines and submit inaccurate information</li> </ul>
<b>Planning and Development Department<sup>[3]</sup></b>	<ul style="list-style-type: none"> <li>■ Low employee morale results in lack of employee focus on broader welfare of City</li> <li>■ Certain core services employ twice as many people as necessary to perform functions</li> </ul>
<b>Detroit Police Department<sup>[4,5]</sup></b>	<ul style="list-style-type: none"> <li>■ Frequent turnover (five different police chiefs in five years) results in EM acknowledgment of extremely low efficiency (1 hour response time), effectiveness and employee morale</li> </ul>
<b>Detroit Fire Department<sup>[4,5]</sup></b>	<ul style="list-style-type: none"> <li>■ Staffing and equipment constraints result in as many as 12 of 52 facilities largely inoperational on any given day</li> <li>■ Extremely slow response time (7 minutes) relative to other cities</li> </ul>
<b>Emergency Medical Services<sup>[5]</sup></b>	<ul style="list-style-type: none"> <li>■ Frequently only one-third of City's ambulances in service at any given time</li> <li>■ Extremely slow response time (15 minutes) relative to other cities</li> </ul>
<b>Assessor's Office<sup>[5]</sup></b>	<ul style="list-style-type: none"> <li>■ Lacks of state-required Level IV Assessor and no available candidates due to inadequate compensation</li> <li>■ Approximately 15,000 parcels per employee versus state recommendation of 4,000 parcels per employee</li> </ul>
<b>Payroll System<sup>[5]</sup></b>	<ul style="list-style-type: none"> <li>■ Extremely high cost to process payroll (\$62 per paycheck) relative to comparable entities (\$15 per paycheck)</li> <li>■ Process is highly manual and prone to human error, including erroneous payments to individuals</li> </ul>
<b>Budgeting, Accounting &amp; Financial Reporting Systems<sup>[5]</sup></b>	<ul style="list-style-type: none"> <li>■ Approximately 70% of journal entries are booked manually</li> <li>■ Outdated financial reporting system is no longer supported by its manufacturer</li> </ul>



# Unfair Discrimination Analysis

## Additional Financial Creditor Disadvantage

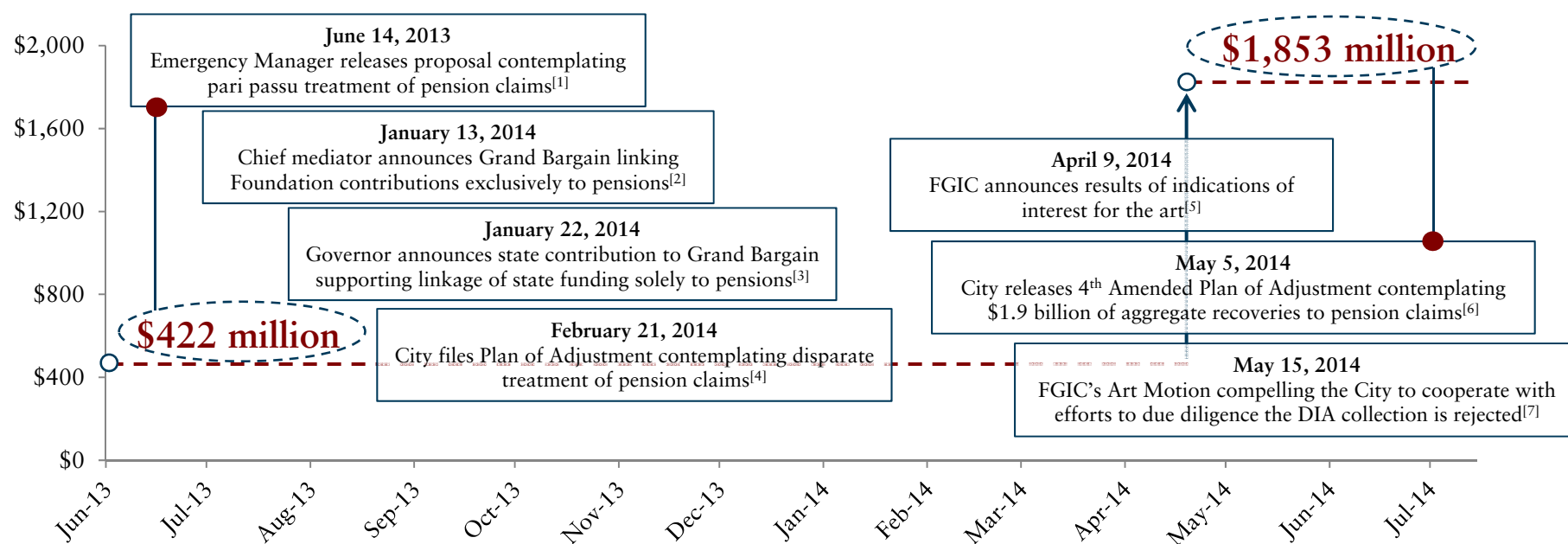


# Public Statements Advocating Disparate Treatment

## The City's actions put financial creditors at a disadvantage

- The public advocacy of the City for a plan which directs state and private funding exclusively to pensions resulted in a significantly disparate recovery outcome
- An examination of the case history reveals that significant statements and actions favoring pensions over financial creditors preceded substantial improvements in pension recoveries at the expense of financial creditors
  - It is reasonable to assume that these statements enhanced the negotiating leverage of pension representatives and were a key causal variable driving the disparate impairment of financial creditors
- A long history of restructuring plan confirmations in bitterly contentious insolvency proceedings supports the position that a more equitable and balanced Plan negotiation approach can yield a more equitable plan that is nonetheless confirmable

## Value of Pension Recoveries at Key Intervals





# Best Interests Analysis

# Best Interests Test Defined

- For the purpose of this analysis, I have analyzed the Plan to determine if it satisfies the best interests test, as it must, for the Plan to be confirmable
- In conducting my analysis, I have measured best interests compliance against the standard as it has been defined in three cases<sup>[1]</sup>

## In re Pierce Cnty. Hous. Auth.

- **Definition:** According to the Debtor, the best interests of creditors test has been described as a “floor requiring a reasonable effort at payment of creditors by the municipal debtor”

## Lorber v. Vista Irr. Dist.

- **Definition:** According to the Debtor, creditors receive “all they can reasonably expect in the circumstances”

## In re Sanitary & Improvement Dist., No. 7

- **Definition:** According to the Debtor, the best interest of creditors “simply requires the Court to make a determination of whether or not the plan as proposed is better than the [alternative to chapter 9, dismissal of the case]”

# Best Interest Compliance – Summary of Findings

- The Plan fails to satisfy the best interests test for the reasons summarized in this section and elaborated upon in the remaining sections of this report

## Dismissal Would Force a More Thoughtful Examination of Detroit's Ability to Pay

<b>Factual Basis</b>	<ul style="list-style-type: none"><li>■ Outside of bankruptcy, both distressed and non-distressed cities routinely monetize assets as a means of dealing with temporary or more profound financial concerns or constraints</li><li>■ The City's Plan embraces a sentiment that the City's assets should be "[maintained] for a better day" by seeking to effect a cram-down of financial creditors in lieu of a more thoughtful monetization of City assets (both core and non-core) to yield higher creditor recoveries<sup>[2]</sup></li><li>■ Dismissal of the Plan would force the City to conduct a more comprehensive assessment of its ability to pay, incorporating its legacy balance sheet assets instead of using Chapter 9 to significantly impair only financial creditors</li><li>■ Dismissal would also force the City to implement a more comprehensive and effective operational restructuring, thereby generating additional sources of cash flow<sup>[3]</sup></li></ul>
<b>Best Interests Implications</b>	<ul style="list-style-type: none"><li>■ The Plan fails the Pierce Cnty. Hous. Auth., Lorber V. Vista Irr. Dist. and Sanitary &amp; Improvement District standards: the Debtor did not make a reasonable effort to repay creditors, creditors could reasonably expect to receive more and the Debtor has failed to show it is better than the alternatives</li></ul>

# Best Interest Compliance – Summary of Findings (cont.)

## The Plan Does Not Realize Full (or Realistic) Value for the DIA

Factual Basis	<ul style="list-style-type: none"> <li>■ The “Grand Bargain” settlement, as a central feature of the Plan, is flawed in many ways:               <ol style="list-style-type: none"> <li>1. The actual value of the Grand Bargain is far less than the headline value the City has sought actively to promote</li> <li>2. The actual value of the Grand Bargain is far less than the market value of the DIA’s collection assets</li> <li>3. The City has failed to explore a more comprehensive range of DIA transactional alternatives</li> <li>4. The Grand Bargain burdens Detroiters with a large opportunity cost:                   <ul style="list-style-type: none"> <li>• Because the DIA market value vastly exceeds both the Grand Bargain value and other measures of the DIA’s value to the City, it imposes a significant opportunity cost on the City and its creditors</li> <li>• Instead of being allowed to monetize collection assets or explore other DIA transactional opportunities, the Grand Bargain accomplishes a form of regional expropriation of the DIA (for the benefit of public and private interests outside the City), thereby denying the City an opportunity to use DIA proceeds to catalyze recovery and settle claims</li> </ul> </li> <li>4. The Grand Bargain fails to resolve fundamental problems with the municipal ownership / funding structure that have plagued the DIA throughout its history and may impose future economic costs on the City</li> </ol> </li> </ul>
Best Interests Implications	<ul style="list-style-type: none"> <li>■ The Plan fails both the Pierce Cnty. Hous. Auth. and Lorber v. Vista Irr. Dist. standards: the Debtor did not make a reasonable effort to repay creditors and creditors could reasonably expect to receive more</li> </ul>

## Dismissal Will Not Pose an Existential Threat

Factual Basis	<ul style="list-style-type: none"> <li>■ Post dismissal, the City would continue to direct available cash to maintenance of critical services</li> <li>■ Continued deferral of pension and financial creditor obligations would generate ample operating surplus</li> <li>■ The City’s pre- and post-petition conduct, as well as other real-world examples, illustrate that any period of potential post-dismissal disruption can and would be managed without significant detriment to the City</li> <li>■ The lack of any catastrophic events in the wake of a Chapter 9 dismissal ensures COPs and other creditors will preserve a claim to the same base level financial recovery in the event the Plan is dismissed</li> <li>■ The City of Harrisburg, PA offers a case study of a city implementing a more effective financial and operational restructuring after its Chapter 9 petition was rejected</li> </ul>
Best Interests Implications	<ul style="list-style-type: none"> <li>■ The Plan fails the Sanitary &amp; Improvement District standard: the Debtor has failed to show it is better than the alternatives</li> </ul>



# Best Interest Compliance – Summary of Findings (cont.)

## Dismissal Will Not Further Deplete the City's Tax Base

<b>Factual Basis</b>	<ul style="list-style-type: none"> <li>■ Detroit's decades-long decline has been well documented and most recent signs suggest the decline has abated to the point where it may have finally reached an inflection point</li> <li>■ The City is benefiting from a nascent urban infill phenomenon and, more substantively, from the sustained and concerted reinvestment initiatives of the City's private employers</li> <li>■ The City's private employers are likely to continue advancing their privately-led revitalization initiative both as a defensive measure to protect the value of their large legacy investments and also as an opportunistic investment strategy, whether the bankruptcy is dismissed or not</li> <li>■ In the event of a dismissal, resolution of the City's financial difficulties could still be achieved quickly by modifying elements of the existing Plan to reflect fair and equitable treatment of financial creditors</li> </ul>
<b>Best Interests Implications</b>	<ul style="list-style-type: none"> <li>■ The Plan fails the Sanitary &amp; Improvement District standard: the Debtor has failed to show it is better than the alternatives</li> </ul>

## Dismissal Would Allow for a Continuation of COP Option Value

<b>Factual Basis</b>	<ul style="list-style-type: none"> <li>■ The effect of the City's Plan will be to forever cap the recovery prospects of the COP creditors at 6% of the value of their claim and eliminate the possibility that they might participate in the City's future economic recovery</li> <li>■ Certain real-world examples prove it would be more economically advantageous for COP holders to forgo current debt service in the interest of preserving the par amount of their claim</li> <li>■ This concept is further supported by economic theory embedded in widely used and commonly accepted risk pricing models such as Black-Scholes</li> <li>■ Both the real world experience and the theoretical modeling for creditors in a similar circumstance support dismissal of the Chapter 9 proceeding as the value maximizing outcome compared to a cram down Plan that caps Class 9 claims at de minimis recovery levels, thereby precluding COP claimants from participating in the City's economic recovery</li> </ul>
<b>Best Interests Implications</b>	<ul style="list-style-type: none"> <li>■ The Plan fails the Sanitary &amp; Improvement District standard: the Debtor has failed to show it is better than the alternatives</li> </ul>



# Best Interest Compliance – Summary of Findings (cont.)

## Dismissal Will Re-Level the Negotiation Playing Field

<b>Factual Basis</b>	<ul style="list-style-type: none"><li>■ Subsequent to the City’s Chapter 9 filing there have been two significant developments dramatically affecting the negotiating leverage of the COPs<ol style="list-style-type: none"><li>1. The court’s eligibility ruling resolved the federalist versus state’s rights question pertaining to the status of pensions that existed before the decision – more specifically, the court’s ruling decided that pensions are subject to impairment under Chapter 9 like any other contractual obligation</li><li>2. Despite the court’s ruling, the City nevertheless provided preferential Plan treatment to the pensions</li></ol></li><li>■ Dismissal of the Chapter 9 case would allow COPs to re-engage in negotiation with the City and pension advisors to achieve a more equitable settlement outcome aided by the court’s ruling on the unsecured status of the pensions – which would be reinforced by Plan dismissal</li><li>■ There are numerous examples of such negotiations yielding efficient and equitable settlement resolutions</li></ul>
<b>Best Interests Implications</b>	<ul style="list-style-type: none"><li>■ The Plan fails the Sanitary &amp; Improvement District standard: the Debtor has failed to show it is better than the alternatives</li></ul>



# Best Interests Analysis

## Examination of Ability to Pay

# A More Thoughtful Examination of Ability to Pay

## Dismissal Would Force a More Thoughtful Examination of Detroit's Ability to Pay

- Outside of bankruptcy, both distressed and non-distressed cities routinely monetize assets as a means of dealing with temporary or more profound financial concerns or constraints
- Because the City's Plan seeks to cram down financial creditors in lieu of a more comprehensive monetization of City assets, which could yield higher creditor recoveries, a dismissal of the Plan would force the City to conduct a more honest assessment of its ability to pay, incorporating its legacy balance sheet assets instead of using Chapter 9 to significantly impair only financial creditors

### Municipalities Have Begun to Focus on Balance Sheet Assets to Support Their Finances

- Historically one of the key tenets underlying the generally strong credit quality in the municipal debt market was the presumption that issuers would use all available resources to repay their financial obligations
- While the commitment clearly extended to the requirement that municipalities raise taxes, in recent years municipalities across the credit spectrum have also focused on balance sheet assets (either implicitly or explicitly) to generate liquidity, finance investments, support credit quality, and in certain distressed circumstances to repay creditors
- Given the increasing use of balance sheet monetization strategies such as public-private partnerships, there is no doubt that if the City's bankruptcy proceeding were dismissed it would be forced to conduct a more thoughtful examination of the wealth of assets on its balance sheet as a source of enhancing creditor recoveries

### Several Factors Should Lead to a More Expansive Asset Monetization Process

- Outside of bankruptcy, it is a certainty that creditors would point to at least four key factors supporting efforts leading to more expansive municipal asset monetizations:
  1. Reliance on Michigan state law;
  2. The City's recent pre- and post-petition conduct;
  3. Recent municipal market precedent; and
  4. The significant value of the City's major assets

# Recent Municipal Market Precedent

- It is important to recognize that exploring municipal asset monetizations as a means of dealing with financial distress isn't unique
- In assessing the adequacy of Detroit's asset monetization efforts, I examined recent significant asset monetizations for municipal and other government entities across the credit spectrum

## Muni Asset Monetization Research – Summary Conclusions

1. There are numerous examples where both core and non-core assets have been monetized (particularly among stressed or distressed municipalities)
2. Monetization strategies include both P3s and outright sales
3. P3 transaction volumes (wherein municipalities cede a majority of an asset's value under a long-term lease and concession agreement, but maintain asset ownership) have increased
  - "The increasingly complex nature of our national challenges, along with recent shifts in economic and social forces, are creating incentives for government and business to collaborate more frequently and in new ways that go well beyond traditional infrastructure investments"<sup>[1]</sup>  
– Deloitte University Press
4. Detail on use of proceeds is often difficult to ascertain, but the popularity of these transactions among distressed municipalities suggests a trend toward reliance on municipal balance sheet assets outside of bankruptcy to bolster municipal liquidity – and implicitly municipal debt service capacity

## Significant Recent Municipal Monetizations Transactions

Municipality	Asset	Transaction Type	Deal Size <sup>(1)</sup>
Harrisburg, PA <sup>[2]</sup>	■ Incinerator	■ Sale	■ \$130 million
	■ Parking	■ P3	■ \$270 million
	■ City artwork	■ Sale	■ \$4 million
Allentown, PA <sup>[3]</sup>	■ Water / wastewater system	■ P3	■ \$211 million
Indianapolis, IN <sup>[4,5]</sup>	■ Water / wastewater system	■ Sale	■ \$425 million
	■ Parking	■ P3	■ \$20 million
Chicago, IL <sup>[6]</sup>	■ Parking	■ P3	■ \$1.2 billion
New York City, NY <sup>[7]</sup>	■ Office buildings	■ Sale	■ \$250 million
California <sup>[8]</sup>	■ Office buildings	■ Sale-leaseback	■ \$2.3 billion
Arizona <sup>[9]</sup>	■ Publically-owned buildings	■ Sale-leaseback	■ \$1.0 billion
Hercules, CA <sup>[10]</sup>	■ Municipal utility	■ Sale	■ \$10 million

(1) Excludes any future revenue sharing consideration



# Reliance on Michigan State Law

- Michigan's EM legislation provides significant and very specific power to explore and effect monetizations of municipal assets
- Specifically, these powers are set forth in Public Act 436, which provide for the following:

## Public Act 436: City Asset Monetization Powers<sup>[11]</sup>

*The EM may "sell, lease, convey, assign, or otherwise use or transfer the assets, liabilities, functions, or responsibilities of the local government, provided the use or transfer of assets, liabilities, functions, or responsibilities for this purpose does not endanger the health, safety, or welfare of residents of the local government or unconstitutionally impair a bond, note, security, or uncontested legal obligation of the local government."*

- As indicated by the excerpts below from a FGIC internal report, these powers were explicitly referenced and relied upon by FGIC in making its decision to insure the issuance of the City's COP obligations

## FGIC Asset-Related Underwriting Considerations<sup>[12]</sup>

- *"We believe the likelihood of Detroit filing for bankruptcy is remote. Michigan has statutes in place that are designed to provide safeguards in case a local government is running into a fiscal crisis. An appointed EFM has significant powers to manage the city's finances. Several cities that were in fiscal distress in recent years have utilized an EFM to restore their finances without requiring a bankruptcy avenue."*
- *"The emergency financial manager has broad and sweeping powers, including the power to sell or otherwise use the assets of the local government unit to meet past or current obligations so long it does not endanger the public health, safety or welfare of the residents and subject to any charter or other restrictions."*

- The EM asset monetization powers are also consistent with the more traditional creditor protections established and commonly accepted in U.S. bankruptcy law that preclude debtors (both individual and corporate) from shielding assets in an effort to defraud creditors
- Because municipal asset monetizations are often politically unpopular, there is a moral hazard whereby cities may be tempted to seek Federal Court protection / sanction to implement an asset protection scheme to the detriment of creditors
- The Michigan EM legislation is tailor made to avoid such an aggressive interpretation of the Best Interests provisions in Chapter 9 and would allow for the City to conduct a more open, honest and effective asset monetization initiative as an integral component of reaching a comprehensive creditor settlement agreement

# Overview of Detroit Asset Sales

- The City has historically sold assets to fund its annual budget and repay creditors. Furthermore, the Emergency Manager has repeatedly maintained that all of Detroit's assets remain "on the table" as part of the City's restructuring process
  - Despite past precedent and the Emergency Manager's continued verbal indications, the City's restructuring plan fails to capture the value of Detroit's numerous legacy assets in almost any meaningful way

## Timeline of City Actions & Commentary on Asset Monetizations

2005

1

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2014

1. October 2005 – Detroit's Fiscal Analysis Director releases report analyzing the potential securitization of the Detroit-Windsor Tunnel<sup>[13]</sup>
2. April 2006 – City approves sale of City-owned parking garage to the Greektown Casino for \$32 million. Proceeds from the sale will be used to repay bond debt<sup>[14]</sup>
3. April 2007 – Detroit's Fiscal Analysis Director issues recommendations on proposed sale of approximately \$31 million of City-owned property<sup>[15]</sup>
4. September 2010 – McKinsey releases report assessing potential P3 transactions for Detroit's numerous legacy assets. The report identifies DWSD, the Detroit-Windsor Tunnel, Coleman A. Young Municipal Airport, the DIA and Belle Isle as assets for "immediate [P3] consideration"<sup>[16]</sup>
5. September 2012 – Detroit's Fiscal Analysis Director issues memo in favor of proposed Belle Isle lease with state of Michigan<sup>[17]</sup>
6. March 2013 – Newly appointed Emergency Manager Kevyn Orr states that "everything is on the table" in response to a question regarding potential asset sales<sup>[18]</sup>
7. June 2013 – The Emergency Manager releases his Proposal for Creditors identifying "generat[ing] value from City assets where it is appropriate to do so" as a key objective of Detroit's financial restructuring
  - The Proposal lists DWSD, the DIA, City-owned land, the City's parking operations, the Detroit-Windsor Tunnel and Joe Louis Arena, among other assets, as potentially saleable assets<sup>[19]</sup>
8. November 2013 – Michigan Emergency Loan Board approves 30-year Belle Isle lease with City which will allow City to avoid approximately \$5 million of annual operating costs<sup>[20]</sup>
9. March 2014 – City discloses that it has retained DESMAN Associates to assess potential sale-lease transaction or other monetization of Detroit's parking assets<sup>[21]</sup>



# Potential City Asset Monetization Opportunities

- The table below highlights some of the assets owned by the City of Detroit that could potentially be monetized to fund operations or repay creditors

Asset	Description
<b>Detroit Institute of Arts</b>	<ul style="list-style-type: none"> <li>■ The Detroit Institute of Arts is one of the largest municipally-owned museums in the country, with a 66,000-piece art collection valued at several billion dollars</li> </ul>
<b>City-Owned Land</b>	<ul style="list-style-type: none"> <li>■ The City owns approximately 22 square miles of land and other real estate assets obtained with City funds or through the tax lien foreclosure process</li> <li>■ These assets consist of thousands of discrete real estate parcel holdings with a dated “last transaction” aggregate property value assessment in excess of \$1 billion, per the City’s disclosures</li> </ul>
<b>Detroit Water and Sewerage Department</b>	<ul style="list-style-type: none"> <li>■ The Detroit Water and Sewerage Department serves more than 40% of the state of Michigan’s population over a service area of approximately 1,000 square miles. It is the third largest provider of water and wastewater treatment services in the U.S.</li> <li>■ The system generates positive free cash flow and does not receive property tax subsidies from the City</li> </ul>
<b>Coleman A. Young Airport</b>	<ul style="list-style-type: none"> <li>■ Coleman A. Young International Airport is a 263-acre general aviation airport located within and operated by the City</li> <li>■ Approximately 225 corporate and private flights originate from or terminate at the airport daily</li> </ul>
<b>Detroit-Windsor Tunnel</b>	<ul style="list-style-type: none"> <li>■ The Detroit-Windsor Tunnel is an automotive tunnel connecting Detroit and Windsor, Ontario. Approximately 2 million vehicles pass through the tunnel annually</li> <li>■ The City owns the U.S. portion while the portion located in Canada is owned by the city of Windsor</li> </ul>
<b>Parking Operations</b>	<ul style="list-style-type: none"> <li>■ The City’s Municipal Parking Department (“MPD”) manages nine parking garages containing a total of 8,688 spaces, and two public parking lots together containing 1,240 spaces <ul style="list-style-type: none"> <li>● The City owns certain of these parking facilities; others are owned by the Detroit Building Authority</li> </ul> </li> <li>■ MPD also operates 3,404 on-street metered parking spaces; tickets are collected through a private vendor</li> </ul>
<b>Joe Louis Arena</b>	<ul style="list-style-type: none"> <li>■ Joe Louis Arena is an indoor arena located in downtown Detroit, Michigan and is the home to the Detroit Red Wings of the National Hockey League. Completed in 1979, the 20,058 seat arena is Detroit’s largest indoor venue and regularly hosts professional sports, college hockey, concerts, ice shows, circuses and other entertainment</li> </ul>

# Significant Value of City's Major Assets

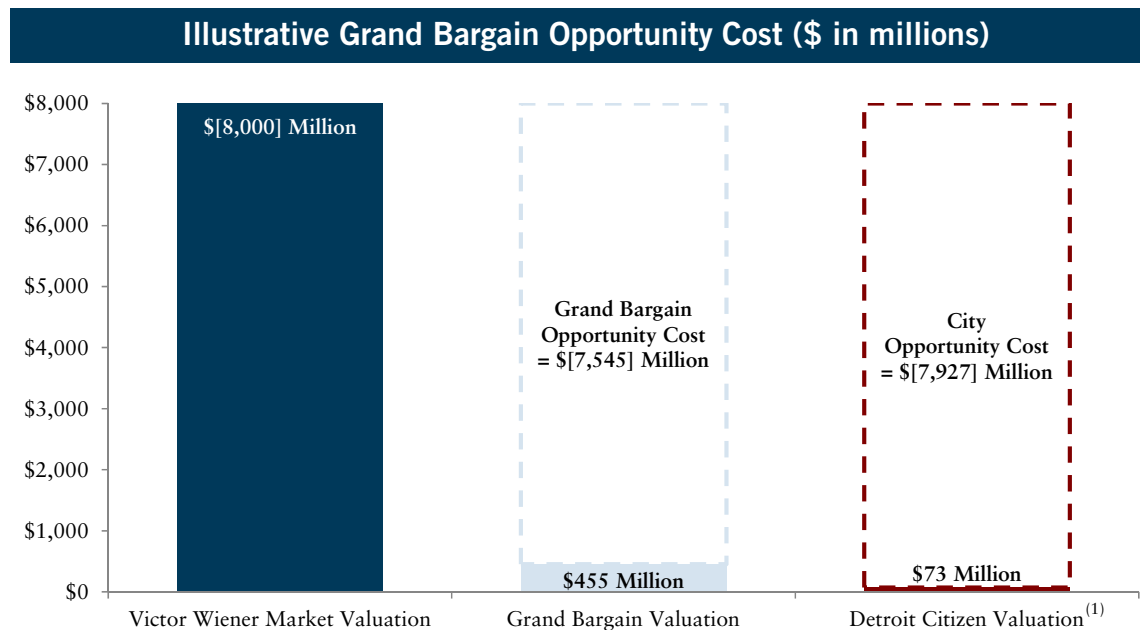
- The City could generate significantly more value from certain asset categories than contemplated under the current Plan
- Under the Plan, the City raises only \$455 million of value for the DIA assets, which is the sum total of City balance sheet related creditor recoveries<sup>(1)</sup>
- Conservative estimates of potential value realization for the other major City asset categories suggest these City-owned assets could collectively generate multiple billions of incremental distributable value for the benefit of the City and its creditors

Incremental Plan Value Potential			
Asset	Value Realization Under Plan	Potential Value Realization	Potential Incremental Value
DIA	■ \$455 million <sup>(1)</sup>	■ [Victor Wiener's market value estimate indicates a value of <b>\$8.0 billion</b> may be realized by pursuing full monetization of the DIA collection ] <sup>[22]</sup>	<b>\$[7.5] billion</b>
DWSD	■ Pending / TBD	<ul style="list-style-type: none"> <li>■ City advisor Miller Buckfire maintains substantial value exists in DWSD beyond value of existing debt and CIP / capex requirements</li> <li>■ Process run in highly politicized environment may have compromised value realization</li> <li>■ Value potential remains substantial but is unknown</li> </ul>	?
Land	■ None	<ul style="list-style-type: none"> <li>■ Substantial opportunity exists to realize land and real estate value</li> <li>■ Requires resolution of current City / county operational impediments and implementation of a strategic plan</li> <li>■ Source of unknown but potentially significant intermediate and longer term value realization</li> </ul>	?
Other	■ None	■ Significant value may be realized from the numerous City-owned legacy assets that the Plan fails to utilize, including (i) Coleman A. Young International Airport, (ii) the Detroit-Windsor Tunnel, (iii) Joe Louis Arena and (iv) the City parking structures, among others	?
<b>Total</b>			<b>\$[7.5] billion+</b>

(1) Reflects net present value of the Grand Bargain proceeds assuming a 6.75% discount (see Appendix [D] for further detail)

# Incremental Art Value

- On a present value basis, the distributable value the City expects to realize from the art under the proposed Plan is approximately \$455 million
- [The DIA's \$[8] billion in market value estimated by Victor Wiener suggests that \$[7.5] billion in incremental value could realized through a full monetization of the art]<sup>[22]</sup>
- While the City contends that litigation might encumber the sale of certain assets, and litigation costs would deduct from incremental distributable proceeds:
  - I find it unlikely these costs would come close to mitigating the incremental value the City might realize from its assets
  - I note that the estimated City professional fees for the entire Chapter 9 proceeding are projected to be in excess of \$100 million<sup>[23]</sup>



(1) See following section for explanation of calculation

# Incremental DWSD Value

- The amount of DWSD system value in excess of the \$5.7 billion in DWSD debt and the projected system CIP / capex requirements is effectively City equity available for use by the City to provide incremental recoveries to creditors
- From public disclosure, the process run by City advisors was highly politicized and appeared to be flawed in certain critical respects:

## Preliminary DWSD System Value Realization Impediments<sup>[24]</sup>

1. Highly publicized concerns over magnitude of DWSD capex requirements
  2. Highly publicized concerns over system operational and cost controls
  3. An apparent one-off negotiating strategy with a potential regional authority that failed to maximize competitive tension by soliciting indications of interest from other parties too late in the process
- At this point the value maximizing strategy would appear to be bolstering DWSD management, addressing operational and cost control concerns and substantiating system capex needs
  - Dismissal of the Plan will actually provide needed and helpful incentive to address these impediments to value realization in the near term and allow the City to realize full and fair value for the system under a more organized process conducted in the intermediate timeframe
  - Compared to the present DWSD-related creditor distributions under the Plan, which have been significantly compromised for the reasons indicated, there is a reasonable creditor expectation that DWSD value realization on Plan dismissal will be greatly enhanced
  - The DWSD is a marquee regional infrastructure asset that would command highly competitive valuation interest from a growing universe of would-be acquirers as an alternative to a regional sewer water authority

# Additional Land Value Details

- While the City ascribes minimal value to its land holdings, the intermediate and long-term value realization prospects for these assets are significant, notwithstanding the rehabilitation costs and discontinuous (i.e. patchwork) nature of City-owned land
- The City owns approximately 22 square miles of land and other real estate assets obtained with City funds or through the tax lien foreclosure process. These assets consist of thousands of discrete real estate parcel holdings with a dated “last transaction” aggregate property value assessment in excess of \$1 billion, per the City’s disclosures
  - According to City records, the last sale value of real estate assets that the City owns as a result of foreclosing on various properties is approximately \$720 million.<sup>[25]</sup> Furthermore, the City is able to foreclose on additional properties with total aggregate assessed and taxable values of approximately \$510 million and \$390 million, respectively<sup>[26]</sup>
- Unfortunately, City property values have plummeted and these estimates likely overestimate City property values by a wide margin, particularly factoring in blight remediation costs
- However, because Detroit remains an important regional hub for manufacturing, logistics, technology and other industries, the City’s rehabilitation will drive longer term value appreciation for the City’s vast land holdings
- Recent home sales suggest a prospective resurgence in property values that could further increase value realization, substantiating the possibility that significant long-term value may be potentially realized in connection with the City’s real estate holdings
  - In May 2014, a Detroit home sold at auction for \$135,000, marking the first time that a winning bid exceeded the \$100,000 threshold<sup>[27]</sup>. An additional 30 homes have been sold for approximately \$2 million<sup>[28]</sup>
  - Also in May, Mayor Duggan announced that auctions have been expanded to include more neighborhoods in order to meet high demand. More than 6,000 people have registered for the auction since the City began the effort<sup>[28]</sup>
    - The administration plans to sell an additional 300 homes by the end of 2014<sup>[29]</sup>
- By remedying structural impediments and implementing a coordinated property value realization strategy, City-owned real estate is a source of material value recovery

## City-Owned Real Estate (\$ in millions)

	<u>Last Sale Amount</u>	
City-Owned Properties Obtained Through Foreclosure	\$720.6	
	<u>Current Taxable Value</u>	<u>Current Assessment</u>
Properties City Can Foreclose On	\$389.9	\$512.2
	<u>Value Estimate (Low)</u>	<u>Value Estimate (High)</u>
<b>Total City-Owned Real Estate</b>	<b>\$1,110.5</b>	<b>\$1,232.8</b>

Note: Property values presented above do not reflect any potential tax payments owed to Wayne County and may represent a significant overstatement of market value for reasons indicated herein





# Best Interests Analysis

**Does the Plan Realize Full Value For DIA Proceeds?**

# Is the Grand Bargain Value Maximizing?

- Under the Plan, the City-owned art collection is the one asset that is being monetized for the benefit of certain creditors
- A crucial question is whether the monetization transaction (dubbed the “Grand Bargain”) maximizes the value of the art
- In attempting to answer this question, my analysis falls into four primary categories:

**I.** The value of the proposed “Grand Bargain” transaction

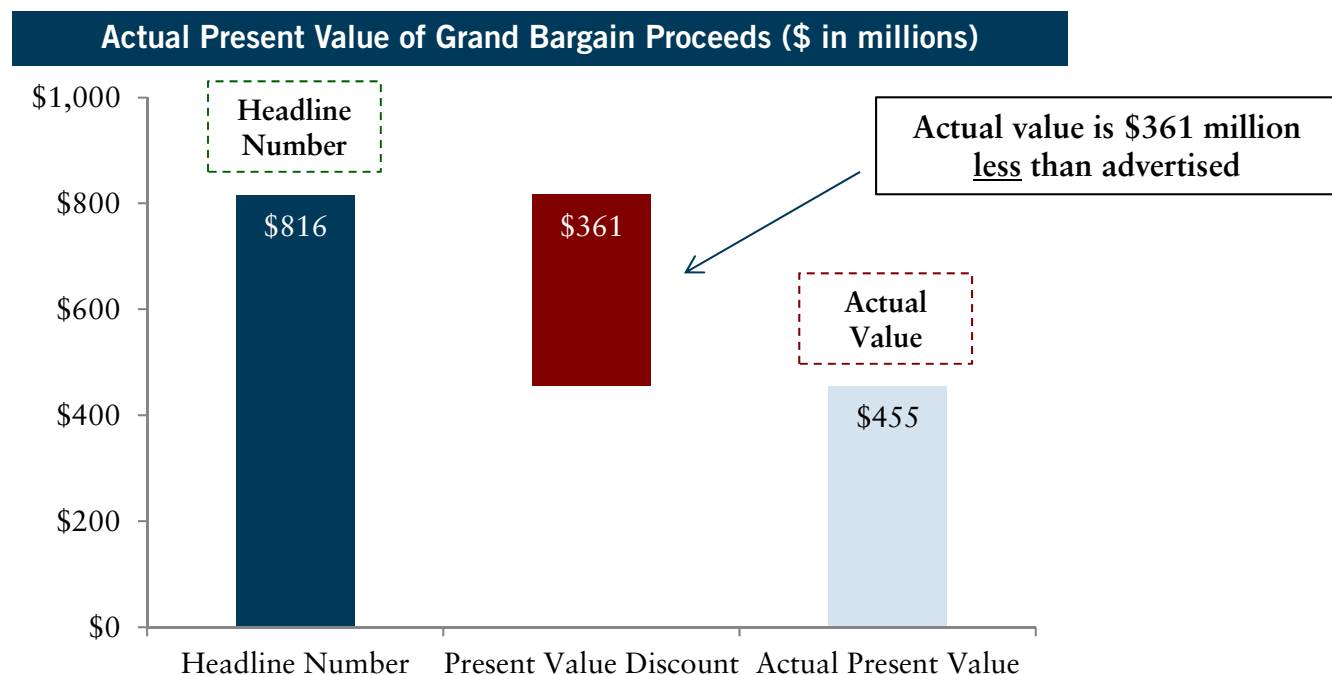
**II.** The actual value of the museum

**III.** The viability and impact of the transaction on the City

**IV.** Other issues and considerations

# Value of the Grand Bargain

- The City has aggressively promoted the Grand Bargain transaction as providing \$816 million dollars in proceeds for the benefit of Detroit's creditors
- Further examination reveals that proceeds of two components of the transaction – the \$366 million Foundation contribution and the \$100 million DIA contribution – are distributed over 20 years, whereas the \$350 million State settlement component has already been discounted under the Plan to \$195 million, using a 6.75% discount rate
  - When applying that same 6.75% discount rate to the Foundation contribution and DIA contribution, the aggregate present value discount to the City's "headline" number of \$866 million is \$361 million (a 41% reduction)
- Consequently, for purposes of determining whether the Grand Bargain maximizes value for the City's art, the applicable Grand Bargain value threshold is actually \$455 million, as illustrated below



# Actual Museum Value

- As a municipally owned and funded museum (a unique ownership and funding structure among major U.S. museums), the DIA's value and claim on public resources have been a contentious issue throughout the museum's history
- To assess the actual value of the museum, I have completed the following:

1.

- A solicitation of third party indications of interest in acquiring, lending against or otherwise purchasing some beneficial interest in all or a portion of the DIA's collection assets

2.

- A review of the Christie's appraisal for a portion of the DIA collection assets

3.

- A review of the DIA's most recent survey information and other DIA produced data potentially relevant to the broader economic value of the museum and its assets

4.

- A review of the Grand Bargain proposal and relevant legislation

5.

- A literature review of various museum valuation methodologies



# Actual Museum Value – Houlihan Lokey Solicitation Process

- In an effort to determine the value that interested parties might place on the DIA collection, I conducted a solicitation of potentially interested parties
- The process was conducted in manner consistent with other similar processes I have run in numerous other professional engagements<sup>[1]</sup>

## Key Process Observations

### Range of Competitive Interest

- Outreach process confirmed interest from a broad range of parties
- Interested parties fell into four primary categories: (i) alternative asset investors; (ii) private collectors; (iii) art intermediaries; and (iv) museums and museum authorities

### Level of Competitive Interest

- High degree of competitive interest
- Number of parties willing to advance formal indications of interest (“IOIs”) would greatly exceed the four indications received if there were constructive process engagement by the City and the DIA
- Interested parties declining to advance formal IOIs expressed confusion / concern over City’s “flip-flop” on potential third party transactional proposals
  - Interested parties cited City’s initial apparent receptivity to third party proposals and later hostility

### Transaction Options

- Broad range of potential transactions available (e.g., art loan, limited deaccessioning, expansive deaccessioning, strategic partnership)

### Summary Process Related Value Conclusion

- \$1.75 billion average valuation of bids received represents minimum value expectation
- Total value realization for DIA collection in open auction process would be much higher
- Range of transactional opportunities suggest museum could be preserved as vital cultural asset while generating more than \$1 billion dollars in incremental value for the City and its creditors



# Actual Museum Value – Alternative Valuation Perspectives

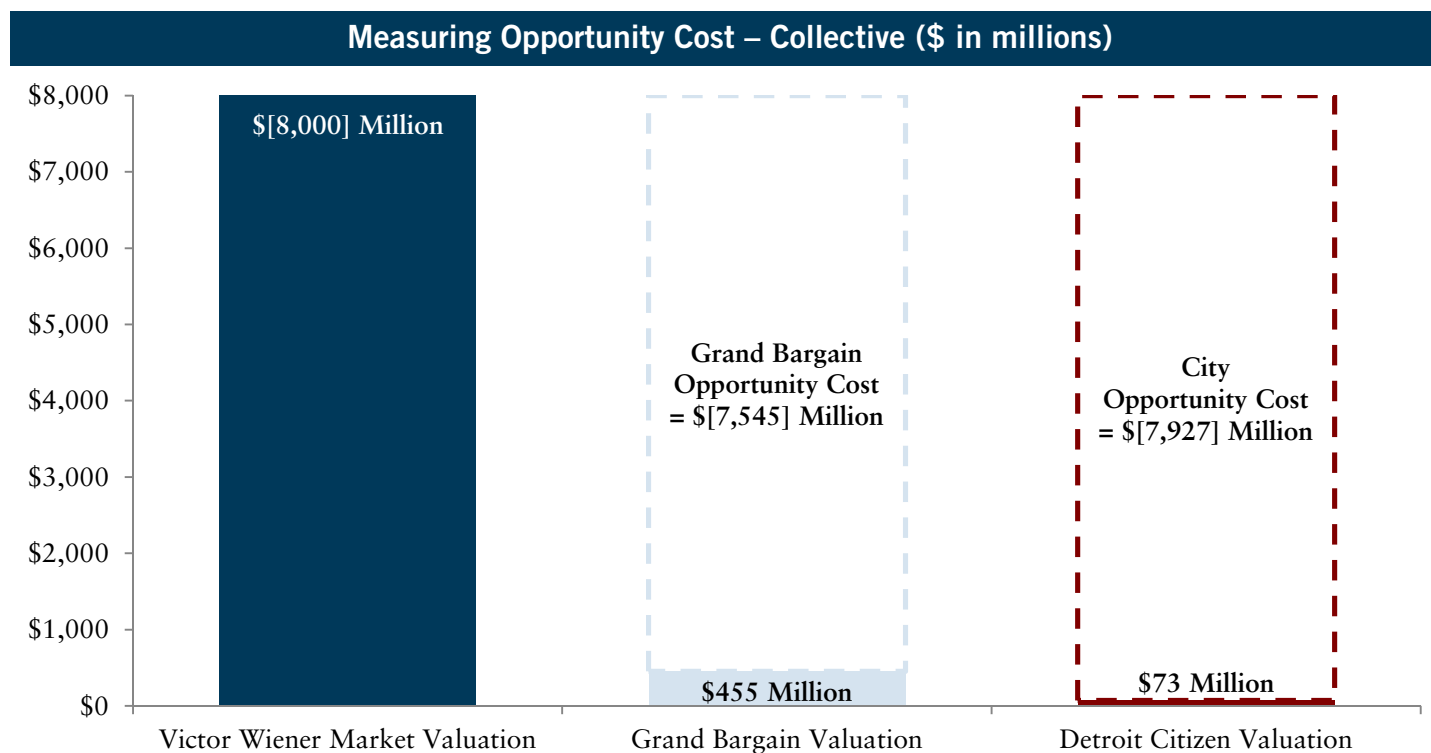
## Tri-County Millage Support – Implied Museum Valuation

- Another perspective on DIA valuation is the Tri-County millage support for the DIA, which can be viewed as a Willingness to Pay (or “WTP”) valuation of the museum as a whole
  - In effect, the millage support can be viewed as the value the citizens of Detroit ascribe to keeping the museum
- The WTP and closely related Contingent Value (“CV”) valuation methodologies have broad support in the academic, legal, financial and government communities as preferred valuation approaches for cultural institutions such as the DIA (see Appendix [E] for additional detail)<sup>[2]</sup>
- Because the Tri-County millage support for the DIA is scheduled to terminate in 2023, I have used an expected value approach assigning a 50% probability to perpetual millage support at the current \$23 million per year level
- Because City residents comprise 18% of the Tri-County population, the implied DIA valuation within the City of Detroit is \$73 million

Tri-County Resident Valuation of DIA									
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Annual Millage Cash Flow	\$23.0	\$23.0	\$23.0	\$23.0	\$23.0	\$23.0	\$23.0	\$23.0	\$23.0
Discount Factor	1.00	0.95	0.91	0.86	0.82	0.78	0.75	0.71	0.68
Present Value	\$23.0	\$21.9	\$20.9	\$19.9	\$18.9	\$18.0	\$17.2	\$16.3	\$15.6
NPV of Millage Cash Flow	\$171.7								
Terminal Value Calculation									
Discount Rate	5%								
Expected Probability of Renewal	50%								
Terminal Value	\$230.0								
Total NPV and Terminal Value	\$401.7								
Detroit Residents in Tri-County	18%								
Detroit Resident Valuation of DIA	\$72.9								

# Grand Bargain Opportunity Cost - Collective

- Compared to other indications of value for the DIA, the Grand Bargain imposes a large opportunity cost on the City and its creditors
- Both the Grand Bargain and the citizens of Detroit place a value on the DIA collection that is over \$[7] billion dollars less than [Victor Wiener's] market value estimate for the DIA collection
- To put that opportunity cost in perspective, the value differential represents more than [6] times the City's entire reinvestment budget for the next 10 years



# Grand Bargain Opportunity Cost - Individual

- Just as the Grand Bargain can be measured on a collective basis, it can also be disaggregated and measured as an imposition of cost against individual pensioners or residents
- As illustrated, because these constituencies would be compelled to accept the Grand Bargain in lieu of a fair market value realization, an individual market cost can be calculated
- The data below reveal that by rejecting market value realization for the City's art assets:
  - The cost to each Detroit pensioner is \$[232,676]
  - The cost to every man, woman and child in the City is \$[10,756]

Measuring Opportunity Cost – Individual		
Constituency	Opportunity Cost per Person	
Per Pension Claimant <sup>(1)[3]</sup>	Grand Bargain Valuation	\$14,032
	Victor Wiener Market Valuation	\$[246,708]
	<b>Pension Claimant Opportunity Cost</b>	<b>\$[232,676]</b>
Per City Resident	Grand Bargain Valuation	\$649
	Victor Wiener Market Valuation	\$[11,405]
	<b>Detroit Resident Opportunity Cost</b>	<b>\$[10,756]</b>

(1) Reflects all individuals entitled to benefits under the PFRS or GRS pension plans

# Valuation Disconnect – Explanatory Variables

- One possible reason for the comparatively large differential between the market value of the City's art collection, and the value of either the Grand Bargain or the value ascribed by Detroit residents, is the comparatively low DIA user rate among Detroiters
- As illustrated, when the annual per capita millage costs are compared to similar metrics for art museums, several observations are immediately apparent
  1. The implied willingness-to-pay ("WTP") for the museum among Detroit residents is far less than similar WTP measures for residents in other cities, suggesting it is not the essential or core cultural asset the City contends
  2. There is an observable positive correlation between WTP and museum user rates

## Contingent Valuation Summary Comparison

Subject Museum(s) / Catchment Area	Average WTP	Average User Rate	Description
<b>Detroit Institute of Arts (Detroit Tri-County Area)</b>	■ \$6.05	■ 11%	■ Millage per annum approved by Detroit Tri-County area
<b>Bolton's Museum Services (Bolton, U.K.)<sup>[4]</sup></b>	■ \$36.06 <sup>(1)</sup>	■ 40% <sup>(2)</sup>	<ul style="list-style-type: none"> <li>■ Economic valuation of Bolton's three museums commissioned by Bolton Metropolitan Borough Council and conducted by Jura Consultants in 2005</li> <li>■ Valuation estimated total annual value of museums to users and non-users to be approximately £4.5 million in aggregate</li> </ul>
<b>National Sculpture Museum (Valladolid, Spain)<sup>[5]</sup></b>	■ \$49.18 <sup>(1)</sup>	■ 78%	■ Economic valuation based on the general Valladolid public's willingness-to pay to preserve and maintain the museum
<b>Quebec Museums (Quebec, Canada)<sup>[6]</sup></b>	■ \$7.33 <sup>(1)</sup>	■ 23% <sup>(3)</sup>	<ul style="list-style-type: none"> <li>■ Assessment of value of museums to Quebec residents</li> <li>■ Valuation based on willingness-to-pay to support Quebec-area museums for residents 18 years of age and over</li> </ul>
<b>Napoli Musei Aperti (Naples, Italy)<sup>[7]</sup></b>	■ \$11.94 <sup>(1)</sup>	■ 57%	■ Assessment of value of a collection of local cultural, historic and artistic monuments to the general Naples public
<b>General Art Patronage in the State of Kentucky<sup>[8]</sup></b>	■ \$19.30 <sup>(4)</sup>	■ 48%	<ul style="list-style-type: none"> <li>■ Assessment of value of the arts to average Kentucky household</li> <li>■ Estimated mean willingness-to-pay to avoid 50% decline in arts performances to be \$24.31 among Kentucky householders</li> </ul>

Note: Comparison of per capita millage to other WTP and CV results is not, strictly speaking, methodologically appropriate but is nonetheless directionally appropriate and accurate

(1) Figure adjusted to USD

(2) Reflects approximately 83,000 users among total catchment area adult population of 208,000

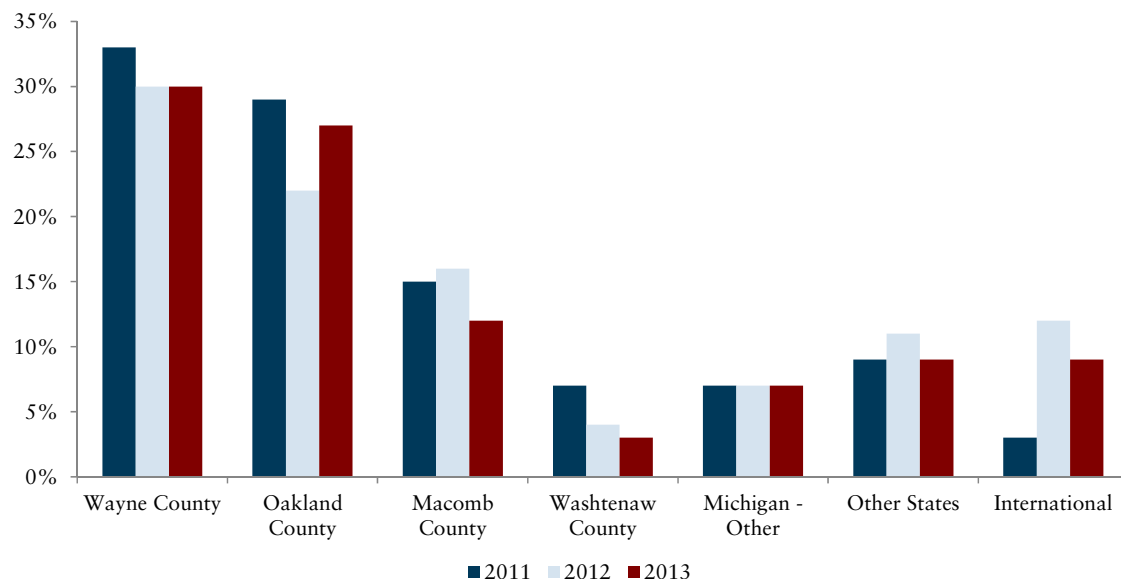
(3) Assumes percentage of Quebec visitors for all Quebec museums is equal to the percentage of Quebec visitors for the Musée de la civilisation

(4) Reflects \$24.31 mean WTP, grossed up to reflect 100% decline in performance and divided by average Kentucky household size of 2.5

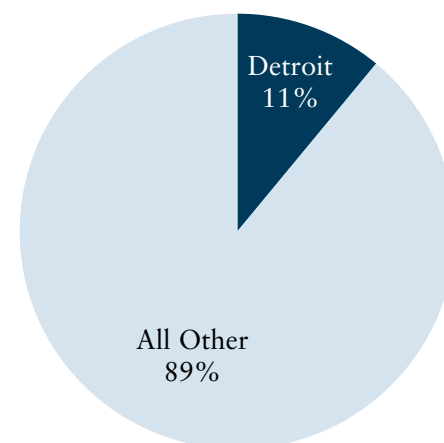
# Valuation Disconnect – Explanatory Variables (cont.)

- The vast majority of visitors to the DIA are from the greater Detroit Tri-County area rather than the City itself
- Although Detroit residents are not separately segmented in the specific illustration provided in the 2013 DIA Visitor Engagement Survey Report (as they are part of the Wayne County), the Detroit resident visitor percentage of 11% is set forth separately in the following text commentary:
  - “The percentage of Detroit residents (11%) among the overall museum audience is consistent with previous Spring periods”
- One troubling concern is that the Grand Bargain imposes a substantial opportunity cost on Detroiters and confers a benefit on a disproportionately suburban user constituency
- The cost-benefit asymmetry is striking and raises a legitimate question as to whether the Grand Bargain is a type of cultural expropriation at the expense of Detroiters

DIA - Percentage of Visitors by Area – 2011 to 2013<sup>[9]</sup>



DIA – Percentage of Visitors from Detroit<sup>[9]</sup>





# Deaccessioning – Challenging the Taboo

- Deaccessioning, or the permanent removal and sale of a work of art from a museum's collection, has recently come under increasing scrutiny as museums have generated significant controversy by considering the sale of collection items to fund operating costs rather than the acquisition of other works of art
- Professional associations such as the Association of Art Museum Directors (AAMD) and the American Alliance of Museums (AAM) expressly forbid this practice (which includes the payment of creditors) in their code of ethics and threaten violators with sanctions that include the suspension of art loans, shared exhibits and other collaborations with other museums, penalties that could force ostracized museums to cancel shows and lose substantial patronage<sup>[10,11]</sup>
  - Because of the significant clout that these associations hold in the art community, most museums adhere to these “suggested” guidelines in their collections management policies rather than risk alienation
- These deaccessioning policies have at times inspired controversy and been criticized as being overly inflexible even in extenuating circumstances, such as situations where a museum would otherwise be forced to close entirely (as was the case of the Delaware Art Museum and, to a lesser extent, the National Academy Museum)
- Other institutions have argued that the proceeds, though not directly used to acquire art, are going to equally worthwhile causes which have been determined by board members to be in the best interest of the institution in question
  - For example, following the AAMD's censure of the Maier Museum of Art at Randolph College, the college responded that the Maier is not a member of the AAMD and is thus not subject to its jurisdiction. Furthermore, its board members have a fiduciary obligation to preserve Randolph College as an educational institution<sup>[12]</sup>

## Deaccessioning Policies of Select Professional Museum Associations

“The disposal of collections through sale, trade or research activities is solely for the advancement of the museum's mission. Proceeds from the sale of nonliving collections are to be used consistent with the established standards of the museum's discipline, but in no event shall they be used for anything other than acquisition or direct care of collections.”

American Alliance of Museums  
***Ethics, Standards and Best Practices***

“In accordance with the AAMD's policy on deaccessioning and disposal, the director must not dispose of accessioned works of art in order to provide funds for purposes other than acquisitions of works of art for the collection.”

Association of Art Museum Directors  
***Professional Practices in Art Museums***

# Summary of Select Art Monetizations

- Despite the AAMD's generally oppositional stance against deaccessioning, I have found recent situations where deaccessionings or deaccessioning like transactions have occurred or are in the process of occurring
  - These situations are summarized below. Additional detail on each transaction is provided in Appendix [F]

Institution	Deaccessioned Works	Proceeds	Use of Proceeds	Outcome / Reaction
<b>Delaware Art Museum</b>	■ "Isabella and the Pot of Basil" (William Holman Hunt) and 3 additional works to be disclosed (pending)	■ \$30 million (expected)	■ Repay \$19.8 million bond issuance ■ Replenish museum endowment	■ "Isabella" sold for \$4.9 million ■ AAMD issued immediate sanctions while AAM voted unanimously to remove accreditation
<b>Maier Museum of Art at Randolph College</b>	■ "Men of the Docks" (George Bellows) and "Trovador" (Rufino Tamayo) ■ 2 additional works (pending)	■ \$33 million (with incremental \$3-\$5 million if additional pending works are sold)	■ Fund school endowment ■ Support operating budget	■ AAMD censure following initial 2008 sale of "Trovador" ■ AAMD sanction following 2014 sale of "Men of the Docks"
<b>Fisk University</b>	■ 101 piece collection donated to the University by Georgia O'Keeffe	■ \$30 million in exchange for a 50% ownership stake	■ Fund school endowment ■ Support operating budget	■ Deal finalized in 2011 by Tennessee Supreme Court after a legal battle with the O'Keeffe estate
<b>Field Museum</b>	■ 31 piece 19 <sup>th</sup> century Western art collection by George Catlin	■ \$17 million	■ Fund future acquisitions ■ Support staff salaries	■ Collection sold to private party in 2004 Sotheby's auction
<b>Rose Art Museum at Brandeis University</b>	■ Entire 7,000 piece Rose Art Museum collection	■ Collection valued at \$350 million	■ Fund school endowment ■ Support operating budget	■ Group of museum donors/overseers filed lawsuit in 2009 to prevent a sale ■ Brandeis settled the case in 2011
<b>National Academy Museum</b>	■ "Scene on the Magdalene" (Frederic Edwin Church) and "Mt. Mansfield" (Sanford Robinson Gifford)	■ \$13.5 million	■ Renovation and painting conservation to allow more collection pieces to be exhibited ■ Fund contingency reserve	■ AAMD sanction (lifted after twenty months following overhaul of academy's governance structure and fundraising procedures) ■ Five year probation to expire in 2015
<b>Thomas Jefferson University</b>	■ "The Gross Clinic" (Thomas Eakins)	■ \$68 million	■ Fund school endowment ■ Support operating budget	■ Sold to two Philadelphia museums after the University provided local institutions the opportunity to match the National Gallery of Art's offer
<b>Fresno Metropolitan Museum</b>	■ Sale of entire collection	■ Undisclosed but artwork value estimated at \$3 to \$6 million	■ Repay creditors	■ All assets liquidated following steep operational and financial difficulties
<b>Louvre</b>	■ Art loan of 200-300 pieces over 10-year period to new museum in Abu Dhabi	■ \$247 million for art loan (with additional \$1 billion for branding rights, exhibitions, management advice and other considerations)	■ N/A	■ Deal has drawn criticism from art and academic communities, but not formal censure/sanctions from AAMD or other associations

# Other Relevant Observations – Undercurrent of Deaccessioning Support

- Although the campaign to support the Grand Bargain has been effective, important views from a range of sources have legitimized calls for a more thoughtful and balanced approach

Arguments For Deaccessioning		
Argument	Rationale	Public Commentary
<b>Substantial Monetization Value</b>	<ul style="list-style-type: none"> <li>■ Detroit's artwork could be readily monetized to provide meaningful cash flow for the benefit of the City's reinvestment initiatives, retirees and financial creditors</li> </ul>	<ul style="list-style-type: none"> <li>■ <i>"The Detroit Institute of Arts (DIA) is the second largest municipally owned museum in the United States and contains an encyclopedic art collection worth over one billion dollars."</i> – Irvin Corley, 2003-2004 Budget Analysis, City of Detroit</li> </ul>
<b>Non-Core Asset</b>	<ul style="list-style-type: none"> <li>■ Art is not essential to the City's critical functions, particularly in comparison to assets used to provide services such as pensions, police, water, transportation or healthcare. Proceeds from the deaccessioning would be used in part to fund these essential services</li> </ul>	<ul style="list-style-type: none"> <li>■ <i>"Let's get real: What sort of message would it send to current and future residents—not to mention current and future bondholders—if Detroit refuses to put everything on the table? You can't eat the DIA's "Still Life With Fruit, Vegetables, and Dead Game," no matter how well-rendered..."</i> – Nick Gillespie, <i>The Daily Beast</i><sup>[13]</sup></li> <li>■ <i>"From a fiduciary point of view, [the Emergency Manager] has to give fair notice that these are assets of the city. It's about what's good for the citizens and the public...I'm letting Kevyn do his job as a practical matter."</i> – Rick Snyder, Michigan Governor<sup>[14]</sup></li> </ul>
<b>Increased Public Viewership Elsewhere</b>	<ul style="list-style-type: none"> <li>■ If the art were sold to a public museum with greater viewership, such as the Getty Museum or the Metropolitan Museum of Art, it would be exposed to and enjoyed by a larger audience, thereby increasing its cultural value</li> </ul>	<ul style="list-style-type: none"> <li>■ <i>"Great artworks shouldn't be held hostage by a relatively unpopular museum in a declining region. The cause of art would be better served if they were sold to institutions in growing cities where museum attendance is more substantial and the visual arts are more appreciated than they've ever been in Detroit."</i> – Virginia Postrel, <i>Bloomberg</i><sup>[15]</sup></li> </ul>
<b>Limited Deaccessioning or Alternative Monetization</b>	<ul style="list-style-type: none"> <li>■ The City could potentially deaccession artwork comprising substantial economic value while still retaining a substantial and culturally relevant collection. Additionally, the City could monetize artwork without directly selling any artwork</li> </ul>	<ul style="list-style-type: none"> <li>■ <i>"We would like to highlight five potential alternatives [to a sale]: (1) the use of art as collateral for a loan; (2) leasing the art to a partnership museum; (3) creation of a "masterpiece trust"; (4) sale and permanent loan or gift to DIA; and (5) a traveling exhibition."</i> – Christie's, Letter to the Emergency Manager<sup>[16]</sup></li> <li>■ <i>"Instead of liquidating this great cultural asset, the DIA and its supporters should advocate for a subset of works in the collection being sent on a five- or 10-year tour of major museums around the world...The long-term value of the collection, both in financial and cultural terms, would probably rise."</i> – Michael Bennett, Law Professor, Northeastern University<sup>[17]</sup></li> </ul>

## Other Relevant Observations – Undercurrent of Deaccessioning Support (cont.)

- Even the Emergency Manager originally maintained that all assets, including the artwork of the DIA, were “on the table” as part of a comprehensive restructuring dialogue and that he had a fiduciary responsibility to explore all value realization scenarios in order to develop a solution that made sense for all of the City’s stakeholders
  - In the context of higher value alternatives, the Emergency Manager’s comment on fiduciary responsibility appears inconsistent with the City’s Plan

### Timeline of City Commentary on Sale of DIA Assets

May 2013

1 2

3 4

5

6 7

8

9

10

March 2014

1. May 24, 2013 – EM spokesman Bill Nowling tells Detroit Free Press that DIA could face exposure to creditors in event of Chapter 9 filing, acknowledging that creditors can “really force the issue” and that art “is an asset of the City to a certain degree [and]...we’ve got a responsibility to rationalize all the assets of the City”<sup>[18]</sup>
2. June 2013 – Christie’s officials visit DIA at request of the EM’s office. Nowling states that there was not a formal contract at that time between the City and the auction house<sup>[19]</sup>
3. August 5, 2013 – Christie’s formal engagement to appraise portion of DIA collection is announced. In a statement, Orr says that the City “must know the current value of all its assets, including the City-owned collection at the DIA” and that Christie’s will advise the City on “non-sale alternatives” for realizing value from the collection (i.e., long-term loans or other sharing agreements with other art institutions)<sup>[20]</sup>
4. August 29, 2013 – Orr states in deposition that although there are no specific plans to liquidate art “or any other asset in particular,” deaccessioning remains a possibility, maintaining that “what I have said when I first took this job, and continue to say, [is that] all options are on the table”<sup>[21]</sup>
5. October 3, 2013 – Speaking at the Detroit Economic Club luncheon, Orr reiterates his “fiduciary obligation to account for all the assets of Detroit” as well as his obligation to act unilaterally to “come up with a solution that makes sense both for the City and for the creditors” if other parties are unable to do so on their own<sup>[22]</sup>
  - In his remarks, Orr stresses need for balanced resolution, imploring that desire to preserve institution be weighed against needs of retirees who are struggling to afford basic necessities like food and housing
  - Orr also discloses that approximately 35,000 pieces of collection are owned “free and clear” by the City with “no bequest or limitation on them.” Most of that art, Orr said, was purchased in 1920s and ‘30s with tax dollars<sup>[23]</sup>
6. December 18, 2013 – Christie’s limited appraisal valuing only 4% of total DIA collection is publically distributed
7. January 13, 2014 – Detroit’s chief mediator announces a DIA settlement involving \$330 million in commitments from consortium of Foundations<sup>[24]</sup>
8. February 21, 2014 – City files first Plan of Adjustment which contemplates DIA assets remaining in the City in perpetuity in exchange for \$[816] million of nominal consideration
9. March 25, 2014 – Orr, acknowledging that title to art is owned by the City “period, full stop,” concedes that issue of DIA deaccessioning—“a yard sale of DIA art”—would stand front and center if the Grand Bargain were to fail<sup>[25]</sup>

## Other Relevant Observations – Museum Valuation Methodologies

- Supporters of the DIA have made the argument that preservation of the museum's collection is an essential or critically important part of the City's long-term recovery prospects
- In an effort to assess the legitimacy of these claims, I conducted a review of various efforts to assess the value of culture and cultural institutions
- More specifically, my review focused on finding and analyzing specific instances where a municipal art museum was valued – ideally for the purpose of guiding public policy decision making with respect to future investment in and administration of the museum
- My research revealed a number of highly relevant observations:

### Museum Valuation Observations<sup>[2,26]</sup>

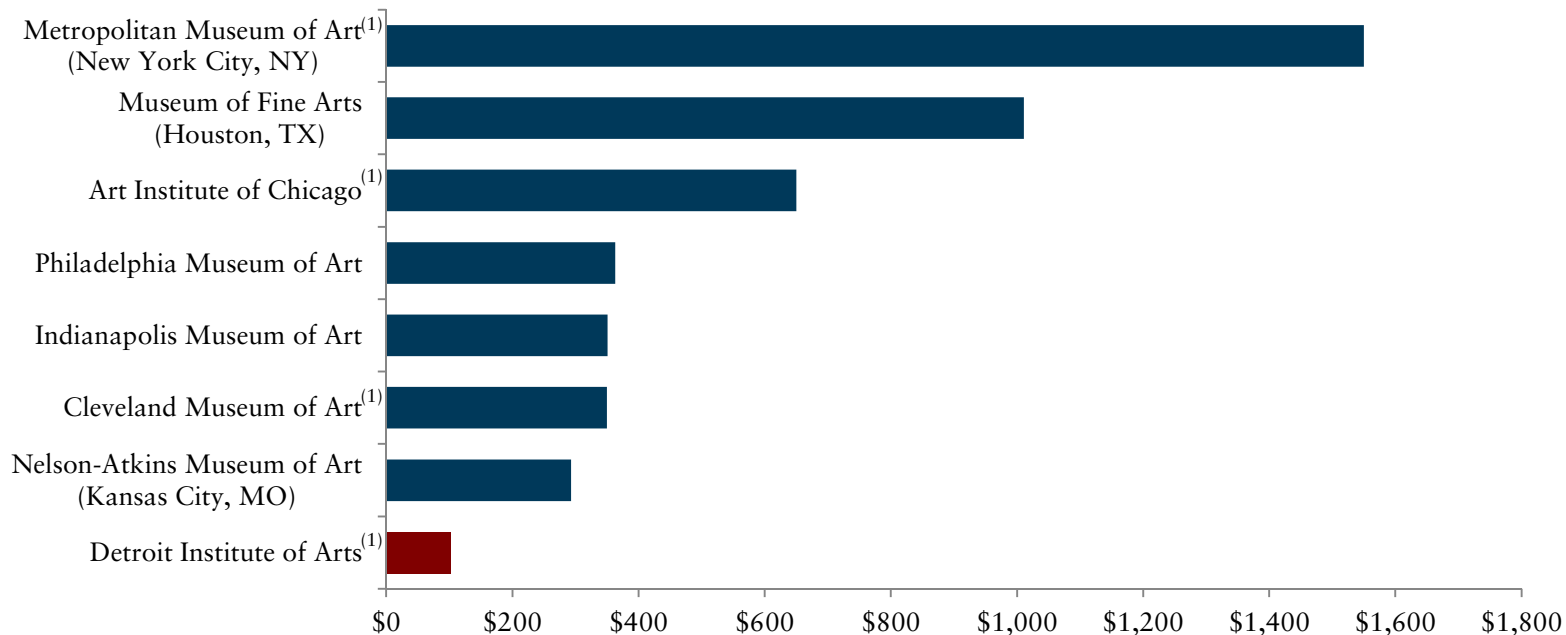
1. The conundrum of proving value in a way that can be understood by public policy decision makers is not unique to the DIA
2. A number of art institutions have used various valuation methodologies to value art museums in cities around the world
3. The resulting valuations are being used to guide municipal investment decisions in the institutions
4. Contingent valuation approaches (such as the WTP valuation previously developed in this report) are emerging as the prevailing or “right” methodological approach to valuing a museum such as the DIA (see Appendix [E] for additional detail)
5. Economic impact analyses tend to be more appropriate for events (such as the Detroit Auto Show) rather than museums which typically fail to bring a large influx of non-resident visitors to a community
  - The analysis is particularly inappropriate for the DIA, which attracts a small non-resident visitor population and lacks surrounding attractions where a multiplier spending effect can occur (see Appendix [E])



# The Grand Bargain Doesn't Fix the Problem

- Jeffrey Abt's authoritative history of the DIA, *Museum on the Verge*, offers an extended treatise on how public funding of the DIA's operating expenditures has undercut the DIA's efforts to raise a sizeable private endowment fund – a critical stabilizing factor for more financially successful art museums<sup>[27]</sup>
- Unfortunately, the Grand Bargain continues an uncertain public funding status for the DIA, with the Tri-County millage for DIA operating support lapsing in 8 years, no assurance of any public financial support beyond its expiration, and the DIA compelled to commit \$100 million of Grand Bargain contributions (money it could have used to supplement deficit endowment fund)
- While the Grand Bargain would transfer ownership of DIA assets from the City to public trust, legally precluding the City from monetizing the assets, it fails to solve the public funding problem and may subject the City to a potentially sizable future public funding burden

Comparison of DIA Endowment to Other Major Art Museums (\$ in millions)<sup>[28,29]</sup>



(1) Reflects endowment for operations



# Best Interests Analysis

**Dismissal Will Not Pose an Existential Threat**

# Will COP and other Creditors Receive Any Recovery if the Plan is Dismissed?

## Dismissal Will Not Pose an Existential Threat

- The Debtor's professionals depict a bleak scenario of universally suboptimal outcomes if the Chapter 9 case is dismissed. The depiction is wrong
- The Debtor would essentially continue functioning as it has during the bankruptcy proceeding with no imminent threat of fiscal or civic collapse

## Continued Deferral of Financial Creditor Obligations Would Generate Ample Operating Surplus

- Post dismissal, the City would continue to direct available cash to maintenance of critical services

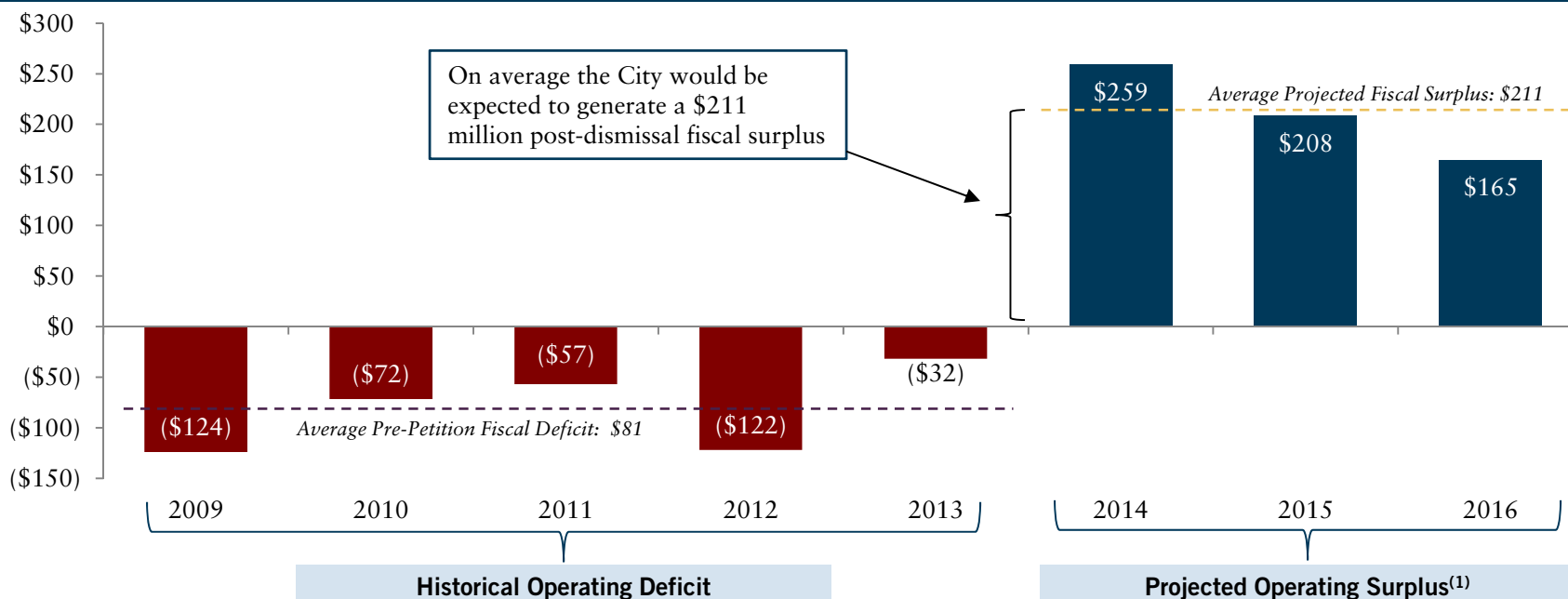
## Dismissal Can and Would Be Managed Without Significant Lasting Detriment to the City

- The City's pre- and post-petition conduct, as well as other real world examples, illustrate that any period of potential post-dismissal disruption can and would be managed without significant detriment to the City
- The lack of any catastrophic events in the wake of a Chapter 9 dismissal ensures COPs and other creditors will preserve a claim to the same base level financial recovery in the event the Plan is dismissed
- The City of Harrisburg, PA offers a case study of a city implementing a more effective financial and operational restructuring after its Chapter 9 petition was rejected

# Post-Dismissal Cash Flow Considerations

- The experience of the City before and during the bankruptcy demonstrates that a Chapter 9 dismissal would have limited, if any, impact on municipal service delivery
- In the wake of a dismissal of the Chapter 9 case, the City would simply continue avoiding contributions to the pension funds and payments to its financial creditors, a cash management strategy which the City effected in the period preceding its Chapter 9 bankruptcy and continued without any major disruptive impact on a post-petition basis
- By the City's own calculations (and experience), this cash management strategy would provide more than enough liquidity to continue paying City employees and vendors to ensure that municipal services would continue uninterrupted
- As illustrated using the City's own forecast, on a post-dismissal basis, the City will be able to generate average excess cash flow (after paying for all critical services) of over \$200 million per year through 2016 – ample time to negotiate a more equitable financial restructuring among key affected creditors

**Illustrative Post-Dismissal Excess Cash Flow (\$ in millions)<sup>[1]</sup>**

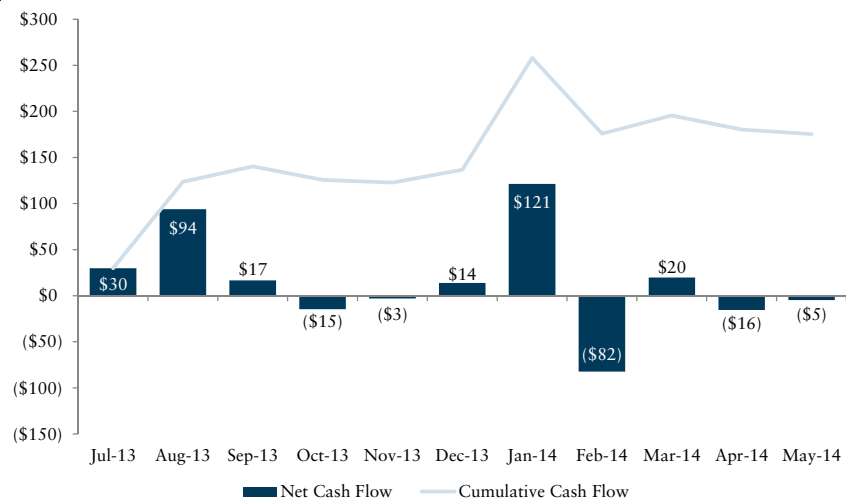


(1) Projected operating surplus calculated as net operating surplus less retiree health benefit expenditures. Excludes impact of pension and legacy debt obligations

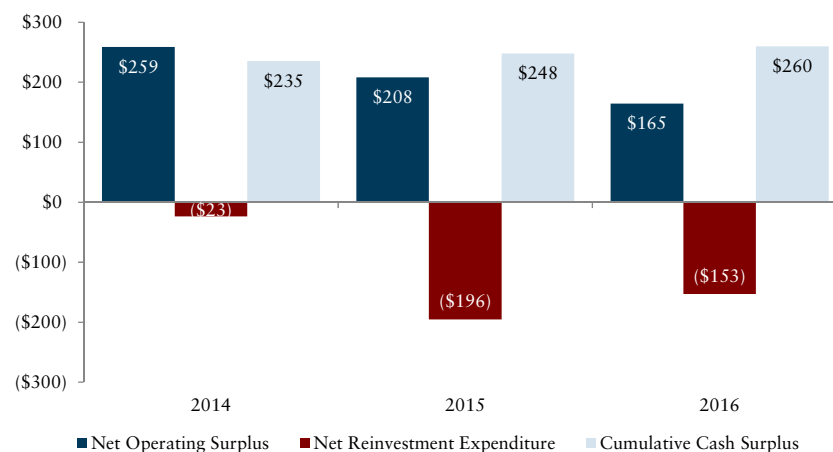
# Sufficient Cash Flow to Implement Revitalization Expenditures

- The City has consistently outperformed its cash flow projections during the bankruptcy and would enter into a post-dismissal period having amassed a \$[235] million General Fund surplus through the 2014 fiscal year<sup>[1]</sup>
- Given the magnitude of the cash flow benefit from avoiding payment of the City's legacy benefit and financial obligation payments, the City should produce sufficient excess cash flow to pay a material portion of the City revitalization expenditures
- Clearly, with the settlement status of the City's benefit and financial obligations unresolved, the City will need to maintain a higher than average cash balance to finance a continuation of higher than average administrative expense burden; but even factoring in these costs, the City's own projections suggest it should have sufficient cash generation to execute a significant portion of its contemplated revitalization expenditures
- It will be up to the City to determine how to prioritize these expenditures. I assume the City will dedicate available resources to projects with the most immediate and favorable cash flow impact

Cash Flow Generated in Chapter 9<sup>[2]</sup>



Excess Operating Cash Flow vs. Net Reinvestment Spend<sup>[1]</sup>





# Municipal Service Delivery Will Not Be Negatively Impacted

- In addition to ensuring that the City will be able to provide all municipal services on a post-dismissal basis, the City will continue to benefit from (i) the fiscal and operational reforms executed on a pre-petition basis, (ii) certain additional reforms executed post-petition and (iii) avoidance of certain costs borne as a result of the petition

## City Will Benefit From Implementation of Reforms

### ✓ Maintain Beneficial CBA Terms<sup>[3]</sup>

- All of the labor costs, work-rule and other City employment terms effected on a pre-petition (and pre-Emergency Manager) basis will continue to bolster the City's cash flow and operational efficiency

### ✓ Bankruptcy Related Reforms<sup>[4]</sup>

- The dismissal of the Chapter 9 need not unwind positive financial and operational reforms negotiated and implemented during the bankruptcy – particularly to the extent that they have been shown to produce positive results and may boost the claim recoveries of the labor constituency who would be the most likely objectors

### ✓ Continuation of Transactional Solutions

- Dismissal of the Chapter 9 case shouldn't impact the City's ability to effect contemplated monetization transactions such as the DWSD transaction, privatization of parking and land sales
- While continued uncertainty over the City's financial status as a transactional counterparty may dampen some buyer / investor enthusiasm, the prospect of more constructive engagement with major creditors in such a process (which is the bankruptcy norm) versus the uncertainty of the appeals process and other potential COP-related litigation may actually enhance prospects for transaction implementation

### ✓ Implementation of Further Reforms

- Dismissal of the Chapter 9 case would provide added impetus for the City to accomplish further structural reform of City government (such as consolidation of various City government divisions) that are commonplace in other operational restructurings and may enhance City municipal service delivery
- Dismissal might also cause the City to undertake a more serious effort to regionalize certain municipal services such as the Detroit Department of Transportation in an effort to make certain areas of service delivery more effective

# Additional Operational Improvements Possible

- One of the criticisms of the City's conduct during bankruptcy is that it has failed to implement badly needed structural and operational reforms to improve the efficiency of city government
- As an example, the City will emerge with the exact same number of government offices it had when it entered bankruptcy – bucking a trend toward consolidation and regionalization of government evident elsewhere in Michigan and around the country

## List of City Government Offices and Departments

Pre-petition	Post-petition
■ Administrative Hearings	■ Recreation
■ Finance/Budget	■ Vital Records
■ Fire	■ Auditor General
■ General Services	■ Board of Zoning Appeals
■ Human Resources	■ City Clerk
■ Labor Relations	■ City Council
■ Human Rights	■ Election Commission
■ Human Services	■ Ombudsperson
■ Law	■ Non-Departmental
■ Mayor's Office	■ Airport
■ Planning & Development	■ Buildings and Safety
■ Police	■ Transportation
■ Public Lighting	■ Municipal Parking
■ Public Works	■ Blight

Same

## City Approach vs. Consolidation / Regionalization Trends

“Bay City, Mich....merged both police and fire departments from top to bottom, cross-training police officers in police and some firefighter duties; 10 firefighters were laid off. The merger is expected to save the city \$1.8 million by 2017. Three other major cities in Michigan -- Grand Rapids, Kentwood and Wyoming -- are considering the formation of a metropolitan public safety agency that would consolidate police and fire operations, cutting costs by \$17 million per year.”

Tod Newcombe,  
Senior Editor, *GOVERNING Magazine*<sup>[5]</sup>

“If you think that things aren't moving that quickly in the arena of sharing of services among governments, consider this: More than half of county officials across the country either are participating in or delivering shared services or are in active discussions to do so.”

John M. Kamensky  
Senior Fellow, IBM Center for the  
Business of Government<sup>[6]</sup>

# City of Harrisburg – Case Study

- The relatively recent dismissal of Harrisburg, Pennsylvania’s Chapter 9 petition offers a convenient case study for how such a dismissal is likely to have little to no impact on the provision of municipal services

## Background & Overview of Bankruptcy Dismissal

- In 2003, Harrisburg approved a plan to retrofit the city’s waste-to-energy incinerator for \$120 million. At the time, the city still owed in excess of \$100 million on the facility<sup>[7]</sup>
  - By 2012, total debt on the facility had increased to more than \$300 million as ongoing construction issues and budget overruns necessitated further borrowing
- The state of Pennsylvania designated Harrisburg as financially distressed in October 2010 under the Pennsylvania Municipalities Financial Recovery Act (or “Act 47”), thus making the city eligible to receive state aid and paving the way for a potential Chapter 9 filing<sup>[8]</sup>
  - The city’s Act 47 coordinator submitted a detailed fiscal recovery plan which was rejected by Harrisburg’s City Council, which claimed the plan was too generous to financial creditors at the expense of residents. Instead, the City Council favored a Chapter 9 filing<sup>[8]</sup>
  - In response, the Pennsylvania General Assembly passed Act 26 in June 2011 which provided that no distressed Pennsylvania city could file a petition under U.S. bankruptcy law<sup>[8]</sup>
- In October 2011, the City Council voted to file for Chapter 9 protection. Both the Mayor and the state of Pennsylvania opposed the filing<sup>[8]</sup>
- Harrisburg’s bankruptcy petition was dismissed in November 2011 on the grounds that the City Council, without the authorization of the Mayor or the state, was not authorized to file the city for Chapter 9. Instead, the city was placed into receivership<sup>[8]</sup>



# City of Harrisburg – Case Study (cont.)

## Financial & Operational Impact of Dismissal

- In lieu of a Chapter 9 plan of adjustment, a City receiver filed a recovery plan in accordance with Act 47 which was confirmed in March 2012<sup>[9]</sup>
- Despite its bankruptcy petition dismissal, Harrisburg was largely able to avoid any meaningful deterioration of municipal service delivery through restructuring initiatives that streamlined operations and redirected expenditures to focus on core services
  - For example, post dismissal, the city was budgeted to increase its police contingent by 16 officers in 2013 and 2014, respectively, and is currently training 13 new firefighters after a renegotiation of its fire contract that is expected to save Harrisburg at least \$1 million annually<sup>[10]</sup>
- To fund core services, the city has implemented a series of cost cutting initiatives, including hiring restrictions, benefit and wage reduction and freezes, consolidation of employee duties, reorganization of departments and personnel and deferral of capital investments<sup>[10]</sup>
  - From January 2010 to December 2012, the city reduced its personnel count by 23%<sup>[10]</sup>
- Harrisburg also implemented several revenue enhancements including (i) an increase in the city's real estate tax rate by 0.8 mills, (ii) an increase in the parking tax rate from 15% to 20% and (iii) an increase in the earned income tax rate from 1% to 2%<sup>[10]</sup>
- The city's General Fund has reported five consecutive budget deficits from 2009 to 2013, though estimates for 2014 suggest that the city's restructuring initiatives are beginning to improve Harrisburg's financial health, despite the dismissal of the city's Chapter 9 petition<sup>[12]</sup>

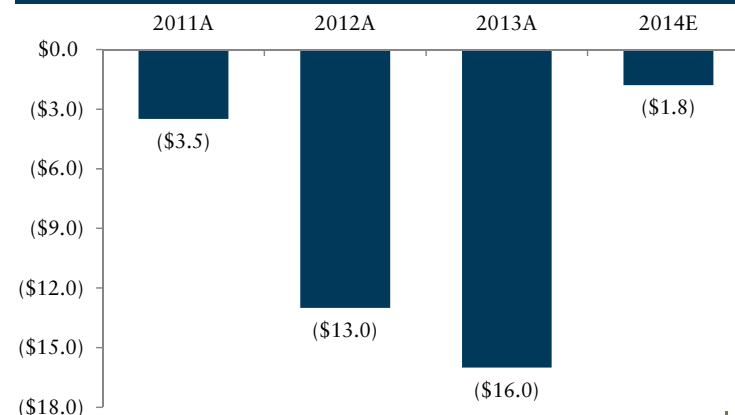
### Municipal Services Delivery<sup>[10,11]</sup>

Service Delivered	2011	2012
Abandoned Properties Razed	11	18
Street Debris Removed	785 tons	779 tons
Potholes Repaired	250	128
Sinkholes Repaired	11	13
Sewers Cleaned	438	451
Residential Waste Collected	28,922 tons	27,607 tons

### Revenue Enhancements<sup>[10]</sup>

Revenue Item	Expected Annual Revenue Impact	Effective Date
Real Estate Tax	\$1.1 million	Jan. 1, 2012
Parking Tax	\$800,000	Jan. 1, 2012
Earned Income Tax	\$6.8 million	Jan. 1, 2013

### Annual Reported Budget Deficit<sup>[12]</sup>







# Best Interests Analysis

**Dismissal Will Not Further Deplete the City's Tax Base**



# Impact of Dismissal on City's Tax Base

## Dismissal Will Not Further Deplete the City's Tax Base

- A dismissal of the City's Chapter 9 proceeding is not likely to have any immediate impact on the City's tax base as these items are more dependent upon general economic trends, the impact of the City's restructuring initiatives and direct legislation than whether or not the Chapter 9 case is dismissed

*"Although unpopular, governments with sufficient autonomy may raise taxes or cut services without seeing mass outmigration from the jurisdiction relative to the demand volume reduction faced by a company."*

**S&P Local Governments General Obligation  
Ratings: Methodology and Assumptions<sup>[1]</sup>**

- The following matrix delineates the City's major sources of revenue and assesses the likely impact of a dismissal on each

Revenue Source	Key Considerations	Impact
Resident Income Tax	<ul style="list-style-type: none"> <li>■ Driven primarily by the number of employed residents and the average taxable income of such residents, neither of which would be directly affected by a dismissal of the case</li> <li>■ City has already increased its initial projections to reflect an improved employment outlook</li> </ul>	Neutral
Non-Resident Income Tax	<ul style="list-style-type: none"> <li>■ Driven primarily by the number of Detroit employed non-residents and the average taxable income of such residents, neither of which would be directly affected by a dismissal of the case</li> </ul>	Neutral
Residential and Commercial Property Tax	<ul style="list-style-type: none"> <li>■ Driven primarily by assessed property values (which the City sets), tax millage rates (which the City controls) and collection rates (which the City plans to improve with its reinvestment initiatives)</li> <li>■ Blight remediation and general real estate trends will be primary drivers of assessed and market values of real estate. Case dismissal unlikely to have any direct impact</li> <li>■ As illustrated, the City will have sufficient financial resources to undertake some portion of the contemplated blight remediation, offering a modest benefit</li> </ul>	Neutral
Wagering (Casino) Tax	<ul style="list-style-type: none"> <li>■ No impact from case dismissal. Wagering tax is driven by casino performance which is based primarily on competition from other nearby casinos and general economic trends</li> </ul>	Neutral
Sales and Charges for Services	<ul style="list-style-type: none"> <li>■ Driven primarily by non-discretionary fees and charges received for City services with no direct link to a case dismissal</li> </ul>	Neutral

# Impact of Dismissal on Private Investment

- A dismissal of Detroit's Chapter 9 case is unlikely to significantly impact the volume of reinvestment in the City by private sector investors, who have already committed substantial amounts of capital to Detroit and will likely continue to do so in order to preserve the value of their legacy investments
- A recent resurgence in downtown Detroit's real-estate market, led by investor Dan Gilbert, has resulted in an influx of investment capital into the City by private investors who are positioning themselves to benefit from the City's eventual recovery and the resulting rebound in property values and rent<sup>[2]</sup>
  - Since 2010, Quicken Loans has moved approximately 3,800 employees downtown and created another 6,500 jobs in Detroit. Other investors have funded hundreds of millions of dollars of commercial and residential development projects in downtown<sup>[3]</sup>
- Additionally, the region's resurgent automotive industry and the expansion of its medical community and nascent technology industry continue to fuel the City's revitalization
  - Detroit Medical Center is the City's largest employer, employing approximately 11,500 employees, while non-profits Henry Ford Health System and St. John Providence Health System employ 8,800 and 3,500 people, respectively

**Top 10 Largest Private Sector Employers in Detroit<sup>[4]</sup>**

2013 Rank	Employer	FTEs Working in Detroit (2012)	FTEs Working in Detroit (2013)	Percent Change (2012 to 2013)
1.	Detroit Medical Center	12,398	11,497	- 7%
2.	Quicken Loans Inc.	5,984	9,192	+ 54%
3.	Chrysler Group LLC	4,042	5,426	+ 34%
4.	Blue Cross Blue Shield of Michigan / Blue Cross Network	5,172	5,415	+ 5%
5.	General Motors Co.	3,947	4,327	+ 10%
6.	DTE Energy Co.	3,630	3,700	+ 2%
7.	MGM Grand Detroit LLC	2,598	2,551	- 2%
8.	MotorCity Casino Hotel	2,124	1,973	- 7%
9.	Compuware Corp.	1,918	1,912	0%
10.	Detroit Diesel Corp.	1,685	1,685	0%

## Concluding Thoughts

- Dismissal will not impact the fundamental reasons that continue to make Detroit an important regional hub

*"The belief in Detroit's imminent revival has spread far beyond Dan Gilbert and the skyscrapers of downtown. Out in the neighborhoods, there is a legion of mini-Gilberts, longtime Detroiters and recent transplants alike, who have united around a conviction that the city has fallen as far as it can go – that the time to buy in is at hand."*

**New York Times Excerpt – July 11, 2014<sup>[2]</sup>**

- Dismissal of Chapter 9 will not impede the City's ability to effect a better financial and operational restructuring – as evidenced by the then-Connecticut attorney general's explanation of Bridgeport, CT's failed chapter 9 filing and the plight of other distressed cities:

*"The solutions offered by Chapter 9 – a restructuring of debt obligation – may help smaller cities or towns that face short term, totally unanticipated financial calamities, such as natural disaster or an unexpected exorbitant judgment from a lawsuit. However, the bankruptcy process provides no solution to a major city facing long term, endemic problems involving erosion of its tax base, loss of manufacturing jobs, and a decaying infrastructure, all which require, in addition to substantial cash, significant structural changes and long term programs that are well beyond the scope of Chapter 9."*

**Richard Blumenthal – 1991<sup>[5]</sup>**

- Dismissal of Chapter 9 need not sacrifice some of the progress or negotiation that have occurred to date. As City spokesperson Bill Nowling acknowledged before the City entered into its Chapter 9 proceeding:

*"[The June 2013 Proposal] represents the thinking of some of the best bankruptcy minds out there on how we can reach a consensual restructuring so we don't have to go to court because we don't think that's in anyone's best interest."*

**Bill Nowling – June 7, 2013<sup>[6]</sup>**



# **Best Interests Analysis**

## **Impact of Dismissal on COP Option Value**



# Continuation of COP Option Value

## Dismissal Would Allow for a Continuation of COP Option Value

- The effect of the City's Plan will be to forever cap the recovery prospects of the COP creditors at 6% of the value of their claim and eliminate the possibility that they might participate in the City's future economic recovery
- Moreover, by preserving the par value of their claim, and the possibility of pari passu treatment with pensions and other creditors if the Plan is dismissed, the City could lose the vast majority of its recovery value (nearly \$2 billion) before COPs would be negatively impacted compared to the current plan

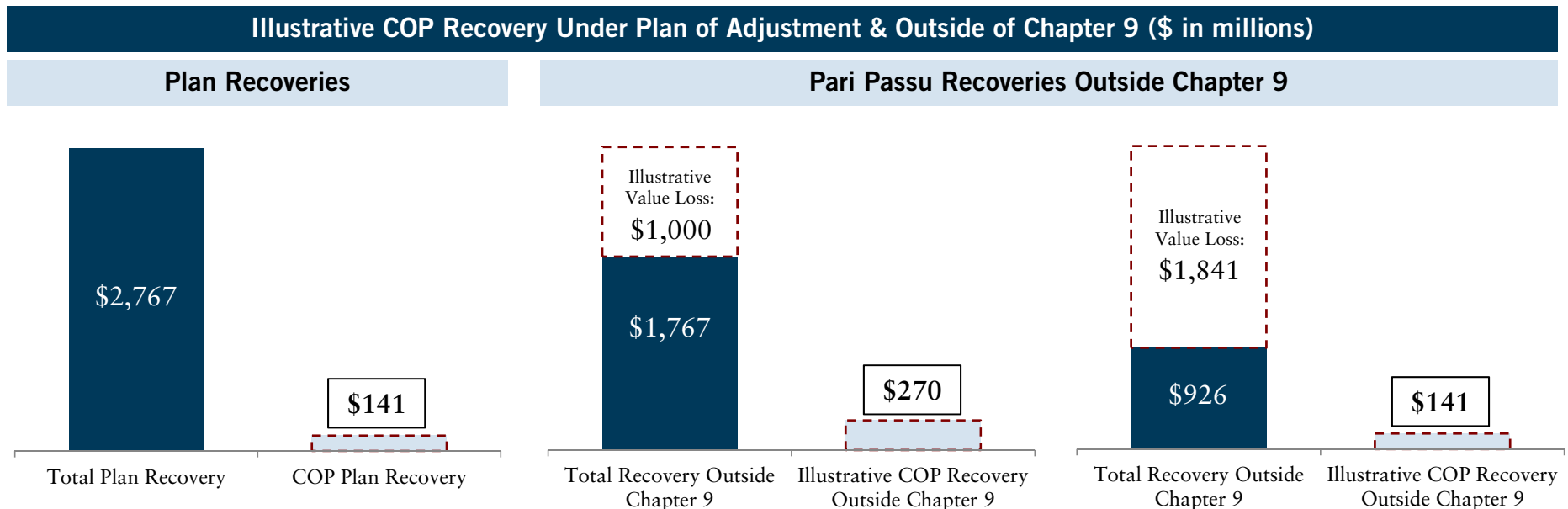
## Economically Advantageous for COP Holders to Preserve The Par Amount of Their Claims

- Certain real-world examples prove it would be more economically advantageous for COP holders to forgo current payments in the interest of preserving the par amount of their claim
- This concept is further supported by economic theory embedded in widely used and commonly accepted risk pricing models such as Black-Scholes
- Both the real world experience and the theoretical modeling for creditors in a similar circumstance support dismissal of the Chapter 9 proceeding as the value maximizing outcome compared to a cram down Plan that caps Class 9 claims at de minimis recovery levels, thereby precluding COP claimants from participating in the City's economic recovery



# Impact of Dismissal on COP Recoveries

- The Plan's disparate treatment of unsecured creditors results in significant impairment of recoveries for COP claimants relative to impairment that may result outside of a Chapter 9 proceeding
- In the event of a dismissal, unsecured claimholders would participate in recoveries based on their pro rata allocation of the unsecured claims pool
  - Assuming that the City loses as much as \$1 billion of unsecured creditor recovery value in the event of a dismissal, COP claimants would still receive significantly better treatment by being allowed to participate on a pari passu basis in unsecured creditor recoveries outside of bankruptcy versus treatment contemplated in the Plan
  - In fact, the City can lose in excess of \$1.8 billion of recovery value in a dismissal and still provide COP claims (if asserted on a pari passu basis) with superior recoveries relative to their contemplated Plan treatment

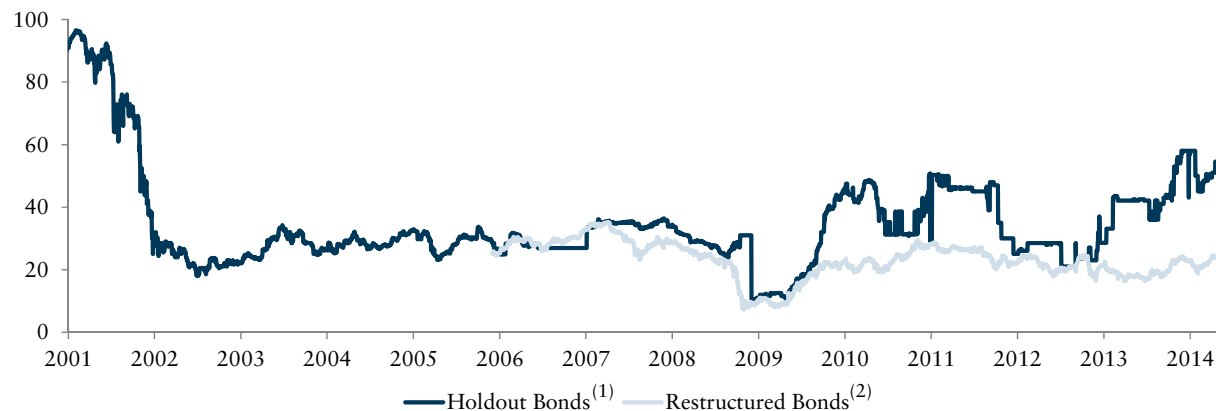


Note: Plan recoveries reflect value of New B Notes based on a 5% discount rate consistent with the Plan

# Real World Examples of Government Payment Default - Argentina

- Argentina defaulted on approximately \$82 billion of sovereign debt in 2001, the largest such default in history, following a severe economic depression and a sustained period of political instability
  - Restructurings have occurred in 2005 and 2010, with consideration given to bondholders in the form of a mixture of par, discount and index-linked bonds<sup>[1]</sup>
- In 2005, after failed attempts to achieve a consensual restructuring, Argentina unilaterally offered creditors a bond exchange worth approximately 30 cents on the dollar on a net present value basis
  - 76% of the debt was exchanged under the 2005 restructuring and brought out of default, with the remaining group of creditors refusing to tender their bonds, including hedge funds opting to instead litigate towards a more favorable outcome<sup>[1]</sup>
- In 2010, to address the remaining defaulted bonds and re-engage the credit markets, Argentina initiated a second bond exchange
  - 68% of the remaining \$18.4 billion in bonds were exchanged, leaving approximately 9% of the original defaulted bonds as “holdouts”<sup>[1]</sup>
- Since then, Argentina has remained current on its obligations to the restructured bonds while choosing to ignore the holdout bonds. Although creditors have won judgments relating to treatment of the holdout bonds, the bonds remain unpaid and continue to be contested in U.S. courts<sup>[1]</sup>
- As illustrated, by preserving the par amount of their claim, Argentina’s holdout bondholders have achieved a better economic outcome than bondholders consenting to impairment

Trading Performance of Argentine Sovereign Bonds



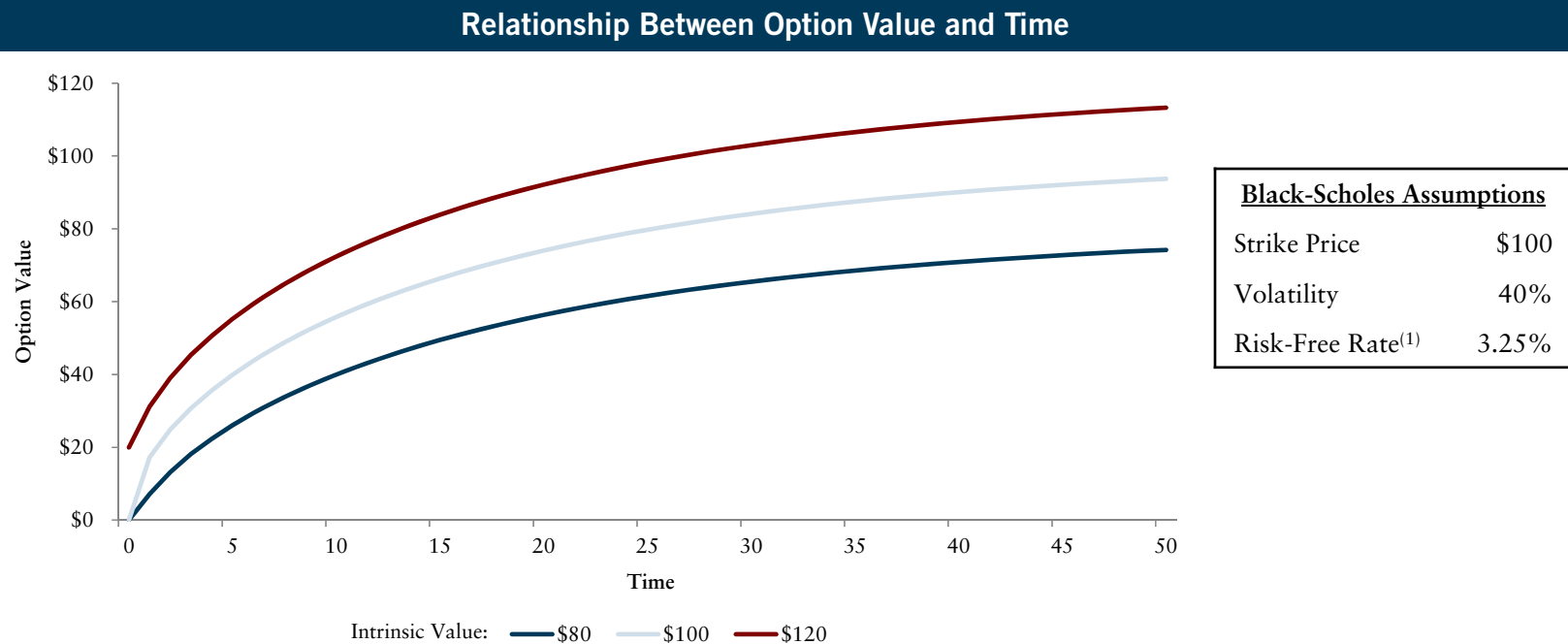
Source: Bloomberg

(1) 8.375% senior unsecured bonds due December 2003

(2) 8.28% senior unsecured bonds due December 2033. [Par amount] reduced by 70% per the estimated creditor recovery in the 2005 bond exchange

# Time Value of Options

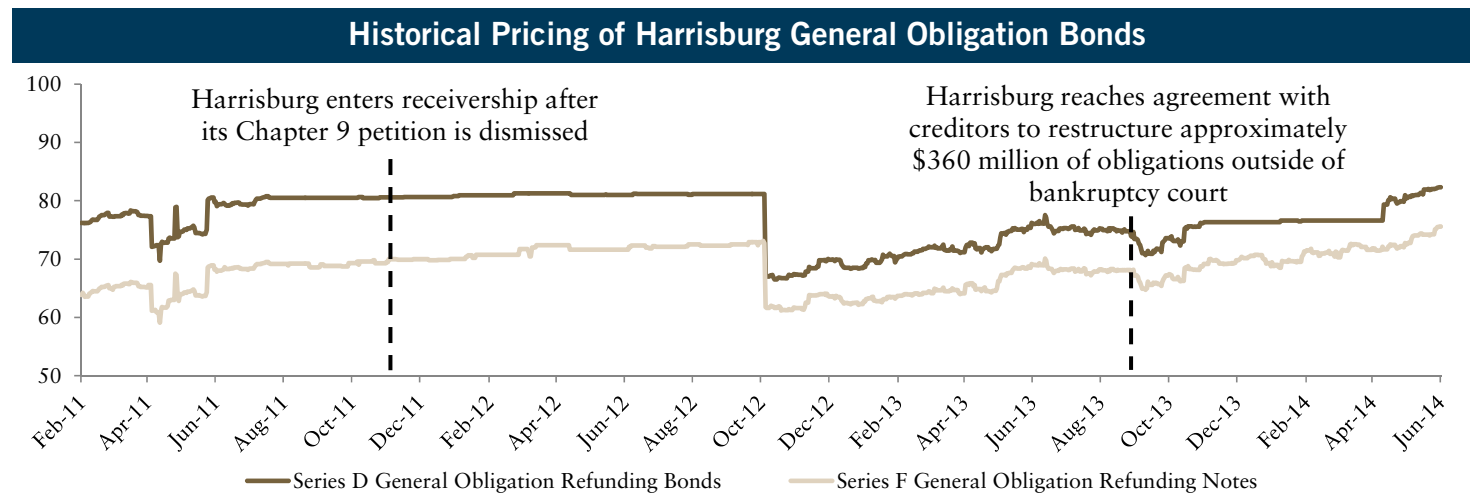
- The case of Argentina is a dramatic real-world illustration of basic mathematical relationships captured in the Black-Scholes options pricing model
  - Under the Black-Scholes model, a key independent variable affecting the value of an option is time
  - As illustrated below, the value of an option is positively correlated with an increase in the time an option can be held for
- In the case of Detroit, bondholders willing to forgo principal and interest for an extended period while maintaining the par amount of their claim can be expected to realize a better economic outcome than bondholders accepting material impairment on their claim
- By denying the opportunity for Detroit's bondholders to participate in the City's future recovery (even if such a recovery never materializes), the City is effecting greater impairment of bondholder claims than it might otherwise offer



(1) Risk-free rate reflects 30-year U.S. Treasury rate as of July 22, 2014

# Summary of Harrisburg Receivership

- The case of Harrisburg offers another real world example of the benefits to bondholders of providing debt service relief in the interests of preserving the par value of a claim and participating in a municipal (or sovereign) economic recovery
- Harrisburg owed creditors approximately \$350 million of outstanding obligations, including approximately \$150 million of debt issued in connection with a trash incinerator facility overhaul and expansion project that significantly underperformed
  - In March 2012, the city defaulted on \$5.3 million of payments for its general bond obligations. The city had previously defaulted on its revenue bond obligations relating to the incinerator project in 2009<sup>[2]</sup>
- As part of a comprehensive restructuring agreement announced in August 2013, the city (i) sold its incinerator, (ii) leased its parking facilities and (iii) issued new debt<sup>[3,4]</sup>
- Had holders of Harrisburg's Series D and Series F general obligation bonds accepted material par impairment of their securities in the wake of the City's default, they would have failed to take part in the operational restructuring of the City that has contributed to the City's stronger financial performance



Source: Bloomberg

# Additional Real World Examples of Government Payment Default - Greece

- In 2010, Greek sovereign debt was downgraded to junk bond status following rapidly deteriorating economic conditions and a widening deficit. Bond yields rose from a spread of 300 bps to nearly 900 bps over benchmark German bonds, effectively eliminating Greece's access to the bond markets<sup>[5]</sup>
  - In response, Greece requested assistance from the International Monetary Fund ("IMF") and other European governments and received approximately \$150 billion in rescue financing to be paid out over three years, contingent on the implementation of fiscal adjustment measures, including a restructuring of Greek's bonds<sup>[5]</sup>
- In June 2011, Greece began discussions on potential bond exchange processes following statements by the German government urging initiation of the restructuring process and receipt of proposals from the Institute of International Finance ("IIF"), a coalition representing various banks and institutional investors<sup>[5]</sup>
  - In conjunction with nearly \$100 billion in additional financing offered by the European Union and IMF, the IIF expressed willingness to participate in a voluntary debt exchange program in which creditors would have the option to choose between various different exchange terms<sup>[5]</sup>
    - The exchange proposal implied creditor losses of approximately 12 cents on the dollar
    - The 2011 financing offer ultimately failed as a result of a worsening recession and increased belief that a greater debt reduction would be necessary
- Following the Euro Summit in October 2011, eurozone leaders invited "Greece, private investors and all parties concerned to develop a voluntary bond exchange with a nominal discount of 50 percent on notional Greek debt held by private investors," pledging themselves to contribute up to approximately \$40 billion, setting the stage for a new round of negotiations<sup>[5]</sup>
- In February 2012, Greece and its creditors agreed to a restructuring whereby the new bonds, consisting primarily of discount bonds and short term notes, would offer a recovery of approximately 47% of the par amount of bonds tendered<sup>[5]</sup>
  - Actual recoveries, as calculated based on trading prices of the new securities, were approximately 35%<sup>[5]</sup>
  - Approximately \$260 billion, equating to 97% of the eligible debt, participated in the exchange, resulting in the elimination of approximately \$140 billion in face value of debt<sup>[5]</sup>
  - Although Greece was able to achieve a high participation threshold, induced through a combination of political pressure, economic incentives and threat of non-payment, the remaining holdout bonds have thus far been paid in full<sup>[5]</sup>





# Best Interests Analysis

## Dismissal of Chapter 9 Will Re-Level Playing Field

# Re-leveling the Negotiation Playing Field

## Dismissal Will Re-Level the Negotiation Playing Field

- Subsequent to the City's Chapter 9 filing there have been two significant developments dramatically affecting the negotiating leverage of the COPs:

### Court's Ruling on Pension Status

- The court's eligibility ruling resolved the question pertaining to the status of pensions that existed before the decision – more specifically, the court's ruling decided that pensions are subject to impairment under Chapter 9 like any other contractual obligation
  - Despite the court's ruling, the City nevertheless provided preferential Plan treatment to the pensions
- Dismissal of the Chapter 9 case would allow COPs to re-engage in negotiation with the City and pension advisors to achieve a more equitable settlement outcome aided by the court's ruling on the unsecured status of the pensions – which would be reinforced by Plan dismissal
  - There are numerous examples of such negotiations yielding efficient and equitable settlement resolutions

# Impact of Dismissal on Pension Reform

- The history of non-bankruptcy municipal pension reform gives rise to a reasonable expectation on the part of the City's financial creditors, particularly its COP claimants, that a more equitable plan of adjustment and a superior financial recovery might be achieved if the Chapter 9 case is dismissed
- As demonstrated by the cases below in which COLA benefits of state pension plans were reduced or eliminated, pension reform can be implemented outside of a Chapter 9 context
- In the majority of cases, COLA reductions were upheld by the courts, with the primary rationale for allowing the cut being that COLA benefits are not a contractual right and can be modified as necessary
  - For example, in Minnesota, the judge ruled that the COLA was not a protected core benefit and that the COLA modification was necessary to prevent the long-term fiscal deterioration of the pension plan
  - Similarly, in Colorado, the judge found that the plaintiffs could have no reasonable expectation of a specific COLA amount for life given that the General Assembly has changed the COLA formula numerous times over the past 40 years

Responses to COLA Cuts (2010-2014) <sup>[1]</sup>				
State	COLA Cut Upheld	Rationale	Court	Year
Colorado	Yes <sup>(1)</sup>	COLA not a contractual right	State District	2011
Florida	Yes	COLA not protected under applicable state law	State Supreme	2013
Maine	Yes	COLA not a contractual right	U.S. District	2013
Minnesota	Yes	COLA not a contractual right	State District	2011
Montana	Yes	Complaint dismissed <sup>(3)</sup>	State District	2013
New Jersey	N/A	Complaint dismissed for lack of jurisdiction	U.S. District	2012
	Yes <sup>(1)</sup>	Complaint dismissed <sup>(4)</sup>	State Superior	2012
New Mexico	Yes	COLA not a contractual right	State Supreme	2013
Rhode Island	Yes <sup>(2)</sup>	N/A	Mediation	2014
South Dakota	Yes	COLA not a contractual right	State Circuit	2012
Washington	No <sup>(1)</sup>	Illegal impairment of contract	State Superior	2011

(1) Case is currently on appeal

(2) Mediation rejected

(3) The court refused to issue a preliminary injunction, finding it was not clear that plaintiffs would be successful in proving that the COLA was protected as a contractual right

(4) No written opinion





# Feasibility Analysis

# Is the Plan Even Feasible If COP Proceeds Are Disgorged from Pension Trusts?

## The Plan is Subject to Excessive Feasibility Risk

- If the City is successful in invalidating the COP transaction, the COP bondholders and insurers would bring various causes of legal action that could ultimately result in the disgorgement of the original COP proceeds from the City's pension trusts
- Because the Plan contemplates only modest pension impairment and requires the City to maintain significant ongoing pension funding obligations, the disgorgement could render the City insolvent from a future cash flow perspective
- The substantial risk that the City could become cash flow insolvent in the event of a disgorgement significantly threatens the feasibility of the Plan according to the definition provided by the City's expert witness in her report on feasibility

*"Is it likely that the City of Detroit, after the confirmation of the Plan of Adjustment, will be able to sustainably provide basic municipal services to the citizens of Detroit and to meet the obligations contemplated in the Plan without the significant probability of a default?"*

*Definition of Feasibility*

**Expert Report of Martha Kopacz Regarding the Feasibility of the City's Plan**

- As summarized on the following pages, the City, according to its own projections, would run out of cash in 2029 in a disgorgement scenario



# Analysis of Disgorgement Scenario

- The significant decline in funding status, coupled with the requirement that the City maintain mandated ongoing pension funding obligations, would place considerable negative pressure on the City's cash flows and create substantial risk that the City runs out of cash, notwithstanding significant liquidity benefit that may be realized from an indefinite deferral of all projected blight and capital investment expenditures
  - The City's own projections show a projected deficit of \$62 million in 2028 which increases to \$166 million in the following year, driven by the increased funding needs of the City's pension trusts in a disgorgement scenario
  - The City runs out of cash in 2029 and maintains a significant liquidity shortfall (projected to be as great as \$1.7 billion) through the end of the projection period
- The City's 40-year Plan projections under a disgorgement scenario are shown on the following pages. The projections are based on the City's 40-year Plan with the following additional assumptions:
  - The GRS and PFRS pension plans' projected unfunded actuarial accrued liabilities as of June 30, 2023 have been increased to reflect the disgorgement of the COP proceeds, assumed to take place on December 31, 2015
    - In the event that proceeds from the COP transaction are disgorged from the pension trusts on that date, the GRS and PFRS pension plans' projected UAALs on June 30, 2023 would increase from \$695 million to \$1.9 billion and \$681 million to \$1.7 billion, respectively, assuming a 6.75% investment rate of return (see Appendix [F] for further detail)
  - COP claims have been eliminated and no longer receive any consideration under the Plan
  - The City continues to defer as much of its restructuring expenses as possible to provide liquidity relief. However, reinvestment deferrals have been capped at the cumulative total of "Capital investments" and "Blight" expenditures (i.e., the City cannot defer more expenses than the total expenses it was projecting to incur up until that point in time)

# Analysis of Disgorgement Scenario (cont.)

- The exhibits below and on the following page show the City's projected cash flows in the event that COP proceeds are disgorged from the City's pension trusts. In such a scenario, the City becomes cash flow negative in 2028 and runs out of cash the following year in 2029

## City of Detroit 40-Year Projections (2014-2033) – Illustrative Disgorgement Scenario (\$ in millions)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
<b>Revenues</b>	\$1,111.3	\$1,345.6	\$1,135.6	\$1,075.9	\$1,084.4	\$1,080.8	\$1,095.5	\$1,097.1	\$1,099.6	\$1,112.0	\$1,127.8	\$1,140.3	\$1,155.9	\$1,177.6	\$1,199.0	\$1,215.5	\$1,237.4	\$1,258.4	\$1,281.3	\$1,304.9
<b>Expenditures</b>																				
Total operating expenses	(817.0)	(773.9)	(781.0)	(761.1)	(776.2)	(787.2)	(798.4)	(810.7)	(828.0)	(840.7)	(856.4)	(875.0)	(894.1)	(913.7)	(933.6)	(954.1)	(975.1)	(996.5)	(1,018.4)	(1,040.9)
Restructuring:																				
Additional operating expenditures	(8.0)	(64.6)	(45.3)	(39.9)	(35.6)	(33.0)	(33.0)	(33.3)	(32.5)	(32.1)	(32.8)	(33.4)	(34.1)	(34.8)	(35.5)	(36.2)	(36.9)	(37.7)	(38.4)	(39.2)
Working capital	(39.8)	15.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Secured debt service	(81.3)	(97.2)	(39.4)	(39.4)	(39.4)	(39.4)	(39.5)	(39.5)	(39.5)	(39.6)	(39.6)	(39.7)	(39.7)	(39.7)	(39.8)	(39.8)	(39.8)	(39.9)	(40.0)	(33.0)
Excess UTGO to pension (Income stabilization)	-	(2.5)	(2.3)	(2.3)	(2.2)	(2.1)	(2.1)	(2.0)	(1.3)	(1.1)	(0.9)	(0.5)	(0.3)	(0.3)	(0.3)	-	-	-	-	-
QOL / exit financing principal/interest payments	(0.7)	(13.4)	(18.0)	(18.0)	(18.0)	(46.6)	(59.1)	(56.6)	(54.0)	(51.4)	(48.9)	(46.3)	(15.1)	-	-	-	-	-	-	-
Reorganization (Capital investments)	(20.6)	(118.9)	(106.4)	(65.6)	(50.2)	(43.6)	(51.9)	(46.0)	(40.4)	(38.6)	(65.4)	(38.8)	(39.6)	(40.3)	(41.1)	(41.9)	(42.7)	(43.5)	(44.3)	(45.1)
Restructuring professional fees	(82.2)	(47.8)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blight (excludes heavy commercial)	(2.0)	(100.0)	(46.0)	(40.0)	(43.0)	(48.0)	(52.0)	(45.0)	(25.0)	(19.0)	-	-	-	-	-	-	-	-	-	-
PLD decommission	-	(2.5)	(5.0)	(15.0)	(10.0)	(10.0)	(10.0)	(12.5)	(10.0)	-	-	-	-	-	-	-	-	-	-	-
Contingency	-	(13.5)	(11.4)	(10.8)	(10.8)	(10.8)	(11.0)	(11.0)	(11.0)	(11.1)	(11.3)	(11.4)	(11.6)	(11.8)	(12.0)	(12.2)	(12.4)	(12.6)	(12.8)	(13.0)
Reinvestment deferrals	-	0.1	6.5	3.5	(10.1)	24.0	24.9	22.1	(8.2)	(31.7)	300.2	262.6	251.8	227.2	154.5	41.9	42.7	43.5	44.3	45.1
Total expenditures	(1,051.7)	(1,219.0)	(1,048.1)	(988.5)	(995.6)	(996.8)	(1,032.1)	(1,034.4)	(1,049.9)	(1,065.3)	(755.0)	(782.6)	(782.7)	(813.3)	(907.8)	(1,042.3)	(1,064.2)	(1,086.6)	(1,109.6)	(1,126.1)
<b>Net operating cash flow</b>	59.6	126.6	87.4	87.4	88.8	84.0	63.4	62.7	49.7	46.7	372.8	357.7	373.2	364.2	291.2	173.2	173.2	171.8	171.7	178.8
<b>Additional Sources</b>																				
Reimbursements from non-GF depts.	-	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0
Pension reimbursements from Library	-	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	7.9	7.8	7.6	7.4	7.2	7.1	6.9	6.7	6.5	6.3
Revenue stream from DWSD	-	68.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	2.9	2.9	6.6	6.4	6.3	6.1	6.0	5.8	5.7	5.6
Hypothetical art proceeds	-	218.1	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	46.6
Fed monies for blight/GRS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Sources</b>	59.6	416.0	162.0	162.0	163.4	158.6	137.9	137.2	124.2	121.1	408.2	392.8	411.8	402.5	329.1	210.7	210.4	208.6	208.2	238.2
<b>Uses</b>																				
Hypothetical retiree payments																				
OPEB payments - current retirees	(20.0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PFRS payments	-	(114.3)	(18.3)	(18.3)	(18.3)	(18.3)	(18.3)	(18.3)	(18.3)	(18.3)	(172.5)	(168.6)	(164.8)	(160.9)	(157.1)	(153.2)	(149.4)	(145.5)	(141.7)	(137.8)
GRS payments	-	(188.2)	(76.9)	(76.9)	(76.8)	(76.6)	(56.5)	(56.5)	(55.2)	(54.9)	(191.8)	(187.6)	(183.3)	(179.0)	(174.7)	(170.4)	(166.1)	(161.9)	(157.6)	(153.3)
<b>Subtotal: hypothetical retiree distributions</b>	(20.0)	(302.5)	(95.2)	(95.2)	(95.1)	(94.9)	(74.8)	(74.8)	(73.5)	(73.2)	(364.3)	(356.2)	(348.1)	(339.9)	(331.8)	(323.7)	(315.5)	(307.4)	(299.3)	(291.2)
Hypothetical notes																				
Note A1	-	(45.8)	(41.5)	(41.5)	(40.5)	(38.4)	(37.8)	(37.1)	(24.1)	(20.8)	(16.7)	(9.5)	(4.9)	(4.9)	(4.9)	-	-	-	-	-
Note A2	-	(55.0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Note B	-	(12.6)	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(56.9)	(55.6)	(54.4)	(53.1)	(51.8)	(50.6)	(49.3)	(48.0)
<b>Subtotal: hypothetical notes</b>	-	(113.4)	(66.8)	(66.8)	(65.8)	(63.7)	(63.0)	(62.4)	(49.4)	(46.1)	(42.0)	(34.7)	(61.8)	(60.5)	(59.2)	(53.1)	(51.8)	(50.6)	(49.3)	(48.0)
<b>Total Uses</b>	(20.0)	(416.0)	(162.0)	(162.0)	(160.9)	(158.6)	(137.9)	(137.2)	(122.9)	(119.3)	(406.3)	(390.9)	(409.8)	(400.4)	(391.0)	(376.8)	(367.4)	(358.0)	(348.6)	(339.2)
<b>Surplus / (deficit)</b>	39.6	-	-	-	2.5	-	-	-	1.2	1.8	1.9	1.9	2.0	2.0	(61.9)	(166.0)	(156.9)	(149.4)	(140.4)	(101.0)
<b>Cash</b>	75.6	75.6	75.6	75.6	78.2	78.2	78.2	78.2	79.4	81.2	83.1	85.0	87.0	89.0	27.1	(139.0)	(295.9)	(445.3)	(585.7)	(686.7)

# Analysis of Disgorgement Scenario (cont.)

## City of Detroit 40-Year Projections (2034-2053) – Illustrative Disgorgement Scenario (\$ in millions)

	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
<b>Revenues</b>	\$1,328.5	\$1,352.6	\$1,368.7	\$1,392.2	\$1,417.9	\$1,444.1	\$1,470.9	\$1,499.3	\$1,527.3	\$1,555.9	\$1,585.4	\$1,615.6	\$1,646.5	\$1,678.0	\$1,710.2	\$1,743.1	\$1,776.8	\$1,813.3	\$1,848.5	\$1,884.5
<b>Expenditures</b>																				
Total operating expenses	(1,065.3)	(1,090.3)	(1,115.9)	(1,142.1)	(1,169.0)	(1,196.6)	(1,224.9)	(1,253.8)	(1,283.6)	(1,314.0)	(1,345.3)	(1,377.3)	(1,410.1)	(1,443.8)	(1,478.4)	(1,513.8)	(1,550.1)	(1,587.4)	(1,625.7)	(1,664.9)
Restructuring:																				
Additional operating expenditures	(40.0)	(40.8)	(41.6)	(42.4)	(43.3)	(44.1)	(45.0)	(45.9)	(46.8)	(47.8)	(48.7)	(49.7)	(50.7)	(51.7)	(52.7)	(53.8)	(54.9)	(56.0)	(57.1)	(58.2)
Working capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Secured debt service	(29.5)	(29.5)	(8.1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess UTGO to pension (Income stabilization)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QOL / exit financing principal/interest payments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reorganization (Capital investments)	(46.0)	(46.9)	(47.8)	(48.7)	(49.6)	(50.5)	(51.5)	(52.5)	(53.5)	(54.5)	(55.5)	(56.6)	(57.7)	(58.8)	(59.9)	(61.0)	(62.2)	(63.4)	(64.6)	(65.8)
Restructuring professional fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blight (excludes heavy commercial)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLD decommission	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contingency	(13.3)	(13.5)	(13.7)	(13.9)	(14.2)	(14.4)	(14.7)	(15.0)	(15.3)	(15.6)	(15.9)	(16.2)	(16.5)	(16.8)	(17.1)	(17.4)	(17.8)	(18.1)	(18.5)	(18.8)
Reinvestment deferrals	46.0	46.9	47.8	48.7	49.6	50.5	51.5	52.5	53.5	54.5	55.5	56.6	57.7	58.8	59.9	61.0	62.2	63.4	64.6	65.8
Total expenditures	(1,148.0)	(1,174.1)	(1,179.3)	(1,198.4)	(1,226.5)	(1,255.2)	(1,284.6)	(1,314.7)	(1,345.7)	(1,377.3)	(1,409.8)	(1,443.1)	(1,477.3)	(1,512.3)	(1,548.2)	(1,585.0)	(1,622.8)	(1,661.5)	(1,701.2)	(1,742.0)
<b>Net operating cash flow</b>	180.5	178.5	189.5	193.8	191.4	189.0	186.4	184.6	181.7	178.6	175.6	172.5	169.2	165.7	162.0	158.1	154.0	151.7	147.3	142.5
<b>Additional Sources</b>																				
Reimbursements from non-GF depts.	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4
Pension reimbursements from Library	6.2	6.0	5.8	5.6	5.5	5.3	5.1	4.9	4.8	4.6	4.4	4.2	4.0	3.9	3.7	3.5	3.3	3.2	3.0	2.8
Revenue stream from DWSD	5.4	6.1	5.8	5.6	5.4	5.2	5.0	4.7	4.5	4.3	4.1	3.9	-	-	-	-	-	-	-	-
Hypothetical art proceeds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fed monies for blight/GRS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Sources</b>	193.0	191.5	202.0	205.9	203.1	200.2	197.2	195.0	191.7	188.2	184.8	181.2	173.8	170.1	166.2	162.2	157.9	155.4	150.7	145.8
<b>Uses</b>																				
Hypothetical retiree payments																				
OPEB payments - current retirees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PFRS payments	(134.0)	(130.1)	(126.3)	(122.5)	(118.6)	(114.8)	(110.9)	(107.1)	(103.2)	(99.4)	(95.5)	(91.7)	(87.8)	(84.0)	(80.1)	(76.3)	(72.4)	(68.6)	(64.7)	(60.9)
GRS payments	(149.0)	(144.7)	(140.5)	(136.2)	(131.9)	(127.6)	(123.3)	(119.1)	(114.8)	(110.5)	(106.2)	(101.9)	(97.7)	(93.4)	(89.1)	(84.8)	(80.5)	(76.3)	(72.0)	(67.7)
Subtotal: hypothetical retiree distributions	(283.0)	(274.9)	(266.8)	(258.6)	(250.5)	(242.4)	(234.2)	(226.1)	(218.0)	(209.9)	(201.7)	(193.6)	(185.5)	(177.3)	(169.2)	(161.1)	(153.0)	(144.8)	(136.7)	(128.6)
Hypothetical notes																				
Note A1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Note A2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Note B	(46.8)	(52.5)	(50.6)	(48.7)	(46.8)	(44.9)	(43.0)	(41.1)	(39.2)	(37.3)	(35.4)	(33.5)	-	-	-	-	-	-	-	-
Subtotal: hypothetical notes	(46.8)	(52.5)	(50.6)	(48.7)	(46.8)	(44.9)	(43.0)	(41.1)	(39.2)	(37.3)	(35.4)	(33.5)	-	-	-	-	-	-	-	-
<b>Total Uses</b>	(329.8)	(327.4)	(317.3)	(307.3)	(297.3)	(287.2)	(277.2)	(267.2)	(257.2)	(247.1)	(237.1)	(227.1)	(185.5)	(177.3)	(169.2)	(161.1)	(153.0)	(144.8)	(136.7)	(128.6)
<b>Surplus / (deficit)</b>	(136.8)	(135.8)	(115.3)	(101.4)	(94.2)	(87.0)	(80.0)	(72.2)	(65.5)	(59.0)	(52.4)	(45.9)	(11.7)	(7.2)	(3.0)	1.1	4.9	10.6	14.0	17.2
<b>Cash</b>	(823.5)	(959.3)	(1,074.6)	(1,176.1)	(1,270.2)	(1,357.2)	(1,437.2)	(1,509.4)	(1,574.9)	(1,633.9)	(1,686.3)	(1,732.2)	(1,743.8)	(1,751.0)	(1,754.0)	(1,752.9)	(1,748.0)	(1,737.5)	(1,723.5)	(1,706.3)



# Appendix





# Appendix

## A. Illustrative June 2013 Proposal Limited Recourse Notes NPV Calculation



# June 2013 Proposal Limited Recourse Participation Notes NPV Analysis

- As set forth below, I estimate the net present value of the Limited Recourse Participation Notes proposed in the City's June 2013 Proposal to be approximately \$1.4 billion, assuming a 5% discount rate commensurate with the discount rate used by the City to calculate the present value of the New B Notes under the Plan
- Consistent with the terms set forth in the City's June 2013 Proposal, my calculation reflects (i) an Initial Participation Year that is the second full fiscal year following the Effective Date, (ii) a Final Participation Year that is the fiscal year beginning on the 20<sup>th</sup> anniversary of the first day of the Initial Participation Year and (iii) a Maturity Date that is the first September 30 following the Final Participation Year
  - For purposes of this calculation, the Initial Participation Year is assumed to be FY 2017, the Final Participation Year is assumed to be FY 2037 and the Maturity Date is assumed to be September 30, 2037
- My analysis further assumes that the Limited Recourse Participation Notes amortize in equal annual payments from September 30, 2016 through September 30, 2037 (i.e., the Maturity Date)
  - Note that under the terms of the Limited Recourse Participation Notes as set forth in the City's June 2013 Proposal, the City may not repay the full (or any) principal amount of the \$2.0 billion issuance if it fails to meet certain criteria

## Illustrative June 2013 Proposal Limited Recourse Participation Notes Net Present Value (\$ in millions)

Key Terms	
Initial Principal Amount	\$2,000
Interest Rate	1.5%
Assumed Initial Participation Year	FY 2017
Assumed Final Participation Year	FY 2037
Illustrative Discount Rate	5.0%

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Beginning Balance	\$2,000	\$2,000	\$1,909	\$1,818	\$1,727	\$1,636	\$1,545	\$1,455	\$1,364	\$1,273	\$1,182	\$1,091	\$1,000	\$909	\$818	\$727	\$636	\$545	\$455	\$364	\$273	\$182	\$91
Less: Paydown	0	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)	(91)
Ending Balance	\$2,000	\$1,909	\$1,818	\$1,727	\$1,636	\$1,545	\$1,455	\$1,364	\$1,273	\$1,182	\$1,091	\$1,000	\$909	\$818	\$727	\$636	\$545	\$455	\$364	\$273	\$182	\$91	\$0
Interest Payment	\$30	\$30	\$29	\$27	\$26	\$25	\$23	\$22	\$20	\$19	\$18	\$16	\$15	\$14	\$12	\$11	\$10	\$8	\$7	\$5	\$4	\$3	\$1
Principal Payment	0	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91
Total Payment	\$30	\$121	\$120	\$118	\$117	\$115	\$114	\$113	\$111	\$110	\$109	\$107	\$106	\$105	\$103	\$102	\$100	\$99	\$98	\$96	\$95	\$94	\$92
Discount Period	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5	13.5	14.5	15.5	16.5	17.5	18.5	19.5	20.5	21.5	22.5
Discount Factor	0.98	0.93	0.89	0.84	0.80	0.76	0.73	0.69	0.66	0.63	0.60	0.57	0.54	0.52	0.49	0.47	0.45	0.43	0.41	0.39	0.37	0.35	0.33
Present Value	\$29	\$112	\$106	\$100	\$94	\$88	\$83	\$78	\$74	\$69	\$65	\$61	\$58	\$54	\$51	\$48	\$45	\$42	\$40	\$37	\$35	\$33	\$31

NPV of Note \$1,432



# Appendix

## B. Debt Service Coverage Ratio Calculation

Debt Service  
Coverage Ratio  
Calculation

# Debt Service Coverage Ratio

## City of Detroit – Illustrative Debt Service Coverage Ratio<sup>[1]</sup>

	Fiscal Year Ended June 30										10 Year Totals		
(\$ in millions)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	'14 - '23	'24 - '33	'34 - '43
<b>Revenue</b>													
Municipal income tax	\$247.9	\$256.2	\$262.3	\$268.3	\$274.0	\$279.9	\$286.0	\$292.2	\$298.5	\$304.9	\$2,770.2	\$3,510.0	\$4,590.6
State revenue sharing	191.2	196.6	198.7	200.3	202.0	203.8	205.6	199.1	200.8	202.5	2,000.5	2,121.0	2,307.1
Wagering taxes	169.9	168.2	169.0	169.9	171.6	173.3	175.0	176.8	178.6	180.3	1,732.6	1,905.6	2,105.0
Property taxes	114.9	102.6	100.8	102.4	102.6	103.9	106.8	109.7	113.3	117.0	1,074.0	1,369.6	1,640.0
Utility users' tax	20.1	24.5	24.9	25.5	26.0	26.4	26.8	27.2	27.6	28.0	257.2	304.3	353.2
Sales and charges for services	131.5	118.0	115.8	113.6	111.4	109.2	107.0	104.4	103.3	104.0	1,118.0	1,161.2	1,415.5
Other revenue	79.8	86.6	78.7	67.3	66.0	66.3	66.6	66.9	67.2	67.5	712.8	753.5	918.5
General Fund reimbursements	29.8	42.9	41.7	21.4	21.4	21.4	21.4	21.4	21.4	21.4	264.1	238.8	291.1
Transfers in for UTGO	66.5	62.6	57.7	57.6	56.5	54.1	53.4	52.7	37.7	33.9	532.8	147.6	22.1
Department revenue initiatives	7.2	88.0	45.1	49.7	52.9	42.5	46.9	46.8	51.3	52.5	482.9	586.2	714.6
<b>Total operating revenue</b>	<b>\$1,058.8</b>	<b>\$1,146.2</b>	<b>\$1,094.8</b>	<b>\$1,075.9</b>	<b>\$1,084.5</b>	<b>\$1,080.9</b>	<b>\$1,095.4</b>	<b>\$1,097.2</b>	<b>\$1,099.7</b>	<b>\$1,112.1</b>	<b>\$10,945.1</b>	<b>\$12,097.9</b>	<b>\$14,357.6</b>
<b>Expenditures</b>													
Salaries - Public Safety	(\$245.2)	(\$263.3)	(\$276.7)	(\$277.5)	(\$284.4)	(\$291.5)	(\$297.4)	(\$303.3)	(\$309.4)	(\$315.6)	(\$2,864.3)	(\$3,524.5)	(\$4,356.5)
Salaries - Non-Public Safety	(85.7)	(86.9)	(88.1)	(86.1)	(88.0)	(90.2)	(92.0)	(93.8)	(95.4)	(97.3)	(903.8)	(1,087.2)	(1,343.9)
Health benefits - active	(173.0)	(67.1)	(52.4)	(55.9)	(60.0)	(63.6)	(66.1)	(68.7)	(71.5)	(74.3)	(752.6)	(928.2)	(1,373.9)
OPEB payments - future retirees	(3.0)	(3.1)	(3.1)	(3.1)	(3.2)	(3.2)	(3.3)	(3.3)	(3.4)	(3.4)	(32.2)	(37.0)	(43.2)
Active pension plan	(18.8)	(33.3)	(34.1)	(34.9)	(35.8)	(36.7)	(37.4)	(38.2)	(38.9)	(39.7)	(347.9)	(443.6)	(547.8)
Other operating expenses	(291.3)	(320.1)	(326.5)	(303.5)	(304.8)	(302.0)	(302.2)	(303.3)	(309.4)	(310.3)	(3,073.2)	(3,437.4)	(4,190.1)
Additional operating expenditures	(8.0)	(64.6)	(45.3)	(39.9)	(35.6)	(33.0)	(33.0)	(33.3)	(32.5)	(32.1)	(357.5)	(359.1)	(437.7)
Reorganization (Capital investments)	(20.6)	(118.9)	(106.4)	(65.6)	(50.2)	(43.6)	(51.9)	(46.0)	(40.4)	(38.6)	(582.2)	(442.7)	(501.4)
Blight (Excludes heavy commercial)	(2.0)	(100.0)	(46.0)	(40.0)	(43.0)	(48.0)	(52.0)	(45.0)	(25.0)	(19.0)	(420.0)	0.0	0.0
PLD decommission	0.0	(2.5)	(5.0)	(15.0)	(10.0)	(10.0)	(10.0)	(12.5)	(10.0)	0.0	(75.0)	0.0	0.0
Contingency	0.0	(13.5)	(11.4)	(10.8)	(10.8)	(10.8)	(11.0)	(11.0)	(11.0)	(11.1)	(101.3)	(121.0)	(143.6)
Restructuring professional fees	(82.2)	(47.8)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(130.0)	0.0	0.0
<b>Total operating expenditures</b>	<b>(\$929.8)</b>	<b>(\$1,121.1)</b>	<b>(\$995.0)</b>	<b>(\$932.3)</b>	<b>(\$925.8)</b>	<b>(\$932.6)</b>	<b>(\$956.3)</b>	<b>(\$958.4)</b>	<b>(\$946.9)</b>	<b>(\$941.4)</b>	<b>(\$9,640.0)</b>	<b>(\$10,380.7)</b>	<b>(\$12,951.8)</b>
<b>Operating cash flow available for debt service</b>	<b>\$129.0</b>	<b>\$25.1</b>	<b>\$99.8</b>	<b>\$143.6</b>	<b>\$158.7</b>	<b>\$148.3</b>	<b>\$139.1</b>	<b>\$138.8</b>	<b>\$152.8</b>	<b>\$170.7</b>	<b>\$1,305.9</b>	<b>\$1,717.2</b>	<b>\$1,405.8</b>
<b>Debt service</b>													
Secured debt	(\$35.4)	(\$39.4)	(\$39.4)	(\$39.4)	(\$39.4)	(\$39.4)	(\$39.5)	(\$39.5)	(\$39.5)	(\$39.6)	(\$390.5)	(\$391.0)	(\$67.2)
Quality of life / Exit financing	(0.7)	(13.4)	(18.0)	(18.0)	(18.0)	(46.6)	(59.1)	(56.6)	(54.0)	(51.4)	(335.8)	(110.3)	0.0
Note A1 (UTGO)	0.0	(45.8)	(41.5)	(41.5)	(40.5)	(38.4)	(37.8)	(37.1)	(24.1)	(20.8)	(327.5)	(40.8)	0.0
Note A2 (LTGO)	0.0	(55.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(55.0)	0.0	0.0
Note B	0.0	(12.6)	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(214.9)	(470.2)	(450.6)
<b>Total debt service</b>	<b>(\$36.1)</b>	<b>(\$166.2)</b>	<b>(\$124.2)</b>	<b>(\$124.2)</b>	<b>(\$123.2)</b>	<b>(\$149.7)</b>	<b>(\$161.7)</b>	<b>(\$158.5)</b>	<b>(\$142.9)</b>	<b>(\$137.1)</b>	<b>(\$1,323.7)</b>	<b>(\$902.0)</b>	<b>(\$517.8)</b>
<b>Debt service coverage ratio</b>	<b>3.6x</b>	<b>0.2x</b>	<b>0.8x</b>	<b>1.2x</b>	<b>1.3x</b>	<b>1.0x</b>	<b>0.9x</b>	<b>0.9x</b>	<b>1.1x</b>	<b>1.2x</b>	<b>1.0x</b>	<b>1.9x</b>	<b>2.7x</b>





## Appendix

### C. Recent General Trend Toward Municipal Asset Monetization

# Select Municipal Asset Monetizations

Municipality	Description
Harrisburg, PA	<ul style="list-style-type: none"> <li>■ In 2013, Harrisburg sold its incinerator to the Lancaster County Solid Waste Management Authority for \$130 million and leased its parking facilities to a private operator in a 40-year deal valued at approximately \$270 million <ul style="list-style-type: none"> <li>● The asset sales were part of a comprehensive restructuring plan proposed to rid the city of \$360 million of debt owed to creditors. The city entered receivership in 2011 after its bankruptcy petition was dismissed</li> </ul> </li> <li>■ Additionally, the city auctioned off approximately 8,000 artifacts collected by a former mayor as part of a planned museum that did not reach fruition. Harrisburg retained approximately \$2.7 million of the estimated \$3.9 million of proceeds generated</li> </ul>
Hercules, CA	<ul style="list-style-type: none"> <li>■ In 2014, Hercules sold its municipal utility to Pacific Gas &amp; Electric for \$9.5 million</li> <li>■ The city's cumulative operating loss on the utility from fiscal years 2003 through 2010 was approximately \$3.8 million</li> </ul>
New York City, NY	<ul style="list-style-type: none"> <li>■ In 2013, New York City sold two landmarked office buildings for approximately \$250 million <ul style="list-style-type: none"> <li>● The former Emigrant Industrial Savings Bank was sold to the Chetrit Group for \$89 million and will be converted to high-end residential units with public retail space on the ground floor. Approximately 30% of the building is currently empty or being used as storage space</li> <li>● 364 Broadway, which is currently used by the New York City Criminal Court, was sold to the Peebles Corporation for \$160 million and will be converted to condominiums and a boutique hotel</li> </ul> </li> </ul>
Allentown, PA	<ul style="list-style-type: none"> <li>■ In 2013, Allentown entered into a 50-year lease of its water and sewer systems to the Lehigh County Authority for \$211 million</li> <li>■ Proceeds from the transaction will be used to fund the city's pension obligations</li> </ul>
Nassau County, NY	<ul style="list-style-type: none"> <li>■ In 2011, Nassau County sold its rights to collect rent for 30 years on 18 leases of county-owned commercial properties for a one-time payment of \$37 million</li> </ul>
Newark, NJ	<ul style="list-style-type: none"> <li>■ In 2010, Newark sold 16 publically-owned buildings (including the Newark Symphony Hall and the city's police and fire headquarters) to the Essex County Improvement Authority for \$74 million <ul style="list-style-type: none"> <li>● The sale generated \$40 million for the City's 2010 budget deficit of \$80 million</li> </ul> </li> <li>■ The city leased back the buildings for approximately \$125 million over the next 20 years</li> </ul>
California	<ul style="list-style-type: none"> <li>■ In 2010, the state of California entered into a \$2.3 billion sale leaseback agreement under which it sold 24 state office buildings to a consortium of investors <ul style="list-style-type: none"> <li>● The sale generated \$1.2 billion for the state general fund and \$1.1 billion to pay off bonds on the buildings</li> </ul> </li> </ul>



## Select Municipal Asset Monetizations (cont.)

Municipality	Description
Indianapolis, IN	<ul style="list-style-type: none"> <li>■ In 2010, Indianapolis sold its water and wastewater systems to Citizens Energy Group for \$425 million of consideration <ul style="list-style-type: none"> <li>● Citizens Energy Group will make substantial capital investments in the systems over 20 years to improve reliability and bring the systems to compliance with federal mandated standards</li> </ul> </li> <li>■ Also in 2010, Indianapolis leased its parking meters to a private operator for an upfront payment of \$20 million and revenue sharing rights over the 50-year term of the lease <ul style="list-style-type: none"> <li>● Under the agreement, the city receives 20% of revenue up to \$8.4 million annually and 55% of any revenue beyond that. The city's share of revenues is expected to range from \$300 million to \$600 million</li> </ul> </li> <li>■ Proceeds from both deals will fund various infrastructure improvement projects, including repairing the city's streets and sidewalks</li> </ul>
Arizona	<ul style="list-style-type: none"> <li>■ In 2009, the state of Arizona entered into a sale leaseback agreement for 14 publically owned buildings (including the state capitol building) for approximately \$735 million of consideration <ul style="list-style-type: none"> <li>● Proceeds were used to plug the state's \$3 billion budge shortfall and fund general government operations</li> </ul> </li> <li>■ Additionally, in 2010, the state entered into another sale leaseback for additional properties (including the Arizona Supreme Court building) for approximately \$300 million. Proceeds will fund aid for Arizona's public schools</li> </ul>
Chicago, IL	<ul style="list-style-type: none"> <li>■ In 2008, Chicago entered into a 75-year, \$1.2 billion lease agreement with a consortium led by Morgan Stanley for 36,000 parking spaces <ul style="list-style-type: none"> <li>● \$400 million of proceeds will fund a long-term reserve, \$325 million will fund the city's budget through 2010, \$325 million will be used to stabilize the budget and \$100 million will fund programs for low-income residents</li> </ul> </li> <li>■ Under the lease, the city will continue to collect parking fines and set rules and rates for its parking meters while handing over operations to the lessee, who will keep any revenues generated</li> </ul>
West New York, NJ	<ul style="list-style-type: none"> <li>■ In 2008, West New York entered into a sale leaseback agreement of its public works garage to the Hudson County Improvement Authority for \$8 million</li> </ul>



# Appendix

## D. Grand Bargain NPV Analysis

# Grand Bargain NPV Analysis

- As set forth below, I estimate the net present value of the DIA Settlement component of the Grand Bargain to be \$455 million, assuming a 6.75% discount rate (commensurate with the discount rate used by the City to calculate the present value of the State Settlement proceeds) and equal annual payments throughout the 20 year payment term
- Accordingly, the actual value obtained by the City with respect to the art is not only far below the value the City would be able to realize through an Alternative Transaction, but substantially lower than the nominal amount touted by the City as well

## Illustrative DIA Settlement Net Present Value (\$ in millions)

	Nominal Amount	Years																		
Foundation Contribution	\$366.0	20																		
DIA Contribution	100.0	20																		
State Contribution	350.0	20																		
Aggregate Contribution	\$816.0	20																		
Illustrative Discount Rate	6.75%																			
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Foundation Contribution	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3	\$18.3
DIA Contribution	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
State Contribution	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Aggregate Contribution	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8
Discount Period	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5	13.5	14.5	15.5	16.5	17.5	18.5	19.5
Discount Factor	0.97	0.91	0.85	0.80	0.75	0.70	0.65	0.61	0.57	0.54	0.50	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.30	0.28
Present Value	\$39.5	\$37.0	\$34.7	\$32.5	\$30.4	\$28.5	\$26.7	\$25.0	\$23.4	\$21.9	\$20.5	\$19.2	\$18.0	\$16.9	\$15.8	\$14.8	\$13.9	\$13.0	\$12.2	\$11.4
NPV - Foundation Contribution	204.3																			
NPV - DIA Contribution	55.8																			
NPV - State Contribution	195.3																			
NPV - Aggregate Contribution	\$455.4																			





# Appendix

## E. Contingent Valuation Methodology

# Museum Valuation Methodologies – A Brief History

- Beginning in the 1980s, something resembling a more rigorous and consistent approach to valuing cultural institutions (including museums) began to emerge<sup>[1]</sup>
- Both in the U.S. and abroad, changes in the government's funding of the arts in the 1980s and a more recent climate of increased budgetary austerity forced the development and application of valuation models for cultural institutions such as art museums
- As an example, in 2010, the U.K. Department of Culture, Media and Sport (DCMS) began developing and refining cultural valuation methodologies for use in the context of government cultural funding and economic decisions<sup>[2]</sup>
- The DCMS work builds on and complements cultural valuation techniques and recommendations advocated by the U.K. Treasury in its "Green Book" on policy appraisal and valuation released in 2003<sup>[2]</sup>
- The basis of the U.K.'s approach to valuing cultural institutions, which appears to be winning favor in certain other European countries, can be distilled from a December 2010 report to the DCMS as follows:
  - There has been a recognition, both within the central government and in parts of the publically funded cultural sector, of the need to more clearly articulate the value of culture using methods which fit in with central government's decision-making
  - Economic uses of value are grounded in individual utility and preference satisfaction as expressed in what people are willing to pay for a good or service
  - This understanding of value as the reflection of individual preferences is at the root of the U.K. government's conception of value for use in decision-making



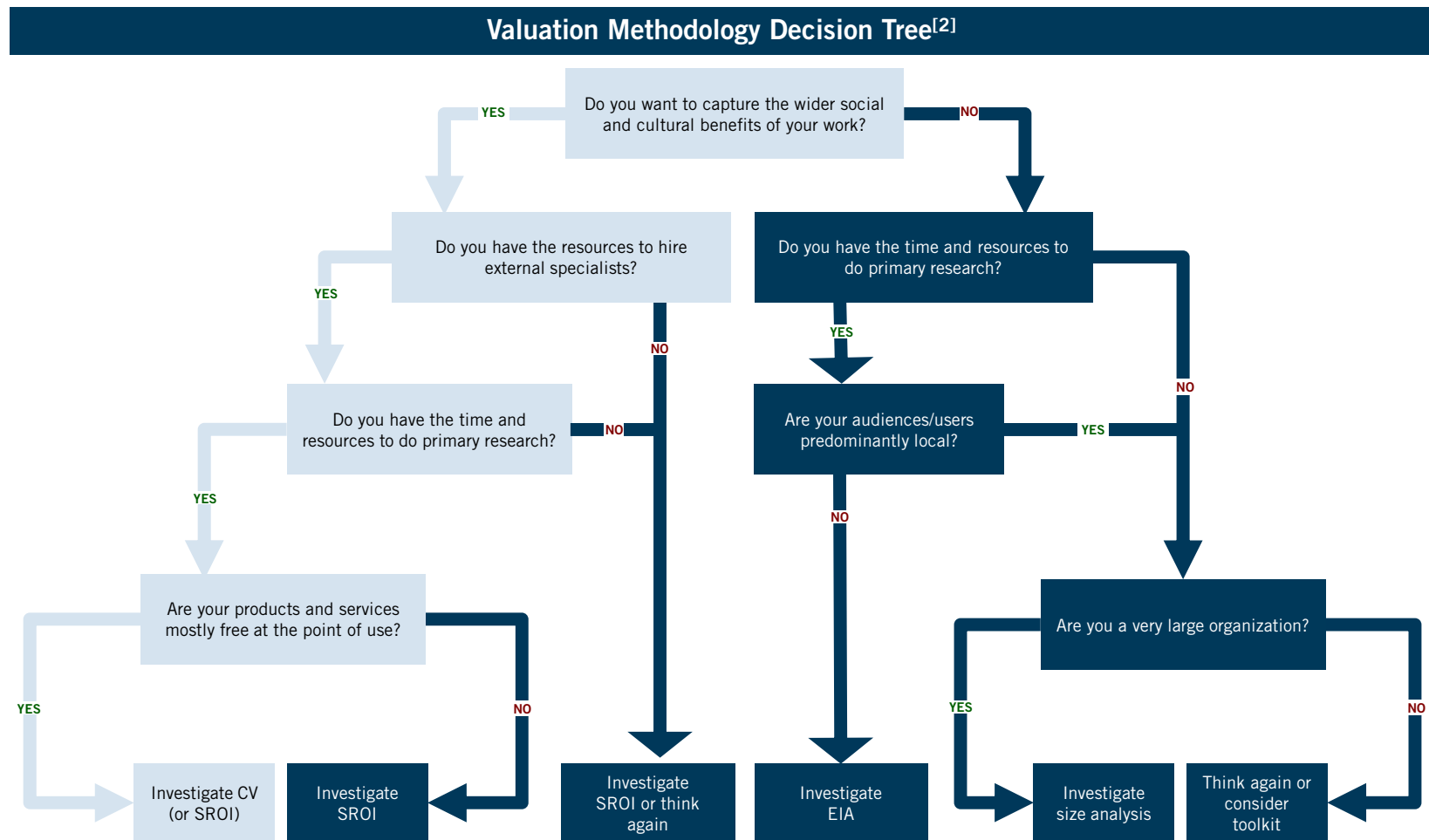
# Museum Valuation Methodologies – Analysis of Specific Methodologies

- From a preliminary review of the relevant literature, there appears to be a consensus emerging around four primary valuation methodologies as the most useful and applicable tools for valuation of cultural institutions
- According to a 2012 report produced by BOP Consulting<sup>[2]</sup>, these methodologies and their applicability can be summarized as follows:

Valuation Methodology	Description	Primary Application
<b>Economic Impact Analysis (EIA)</b>	<ul style="list-style-type: none"> <li>■ Assesses collateral economic impact of institution via: <ul style="list-style-type: none"> <li>● “Direct” spending on supplies;</li> <li>● “Indirect” spending of visitors on restaurants, lodging and retail; and</li> <li>● “Multiplied” effects of this spending on local economy</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Broadly used analysis but best applied to festivals, events or shows such as the Detroit Auto Show which bring a large influx of visitors for a finite period of time</li> </ul>
<b>Economic Footprint Analysis (Size Analysis)</b>	<ul style="list-style-type: none"> <li>■ Compares the size of an organization’s activities relative to the national economy as a whole, as determined primarily by two standard measures: <ul style="list-style-type: none"> <li>● <u>Employment</u>: The number of people who work for that organization</li> <li>● <u>Gross Value Added (GVA)</u>: Value generated for the national economy as a whole by the organization's activities</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Analysis uses relatively standardized methodology but is better suited to large organizations such as National Public Radio</li> </ul>
<b>Contingent Valuation (Stated Preference Model)</b>	<ul style="list-style-type: none"> <li>■ Estimates the extent to which consumers benefit from a product or service, over and above the price they pay for it. This approach tries to estimate three types of value: <ul style="list-style-type: none"> <li>● <u>Use Value</u>: Value derived from direct use of a product or service</li> <li>● <u>Option Value</u>: Value derived from service being available for use at some point in the future</li> <li>● <u>Existence Value</u>: Value derived from service’s existence, even if not actually used</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Allows for a valuation of “non-monetary” goods (i.e., things or activities that do not have a conventional market price, such as visiting a free museum)</li> </ul>
<b>Social Return on Investment (SROI)</b>	<ul style="list-style-type: none"> <li>■ Measures the value of an organization’s activities based on their effects on the organization’s stakeholders and audiences, including social, cultural and environmental costs and benefits</li> </ul>	<ul style="list-style-type: none"> <li>■ Often used within the volunteer and community service sectors, where focus on social benefits is primary aim of many charities’ activities</li> </ul>

# Museum Valuation Methodologies – Decision Tree

- In addition to describing and suggesting the applicability of the four primary valuation methodologies, BOP Consulting report offers a useful decision tree further suggesting contingent valuation as most appropriate for use by an art museum such as the DIA



# Museum Valuation Methodologies – Applicability of Contingent Valuation

- Beyond the BOP Consulting report, I conducted a broader review to corroborate the appropriateness of contingent valuation as a (or perhaps “the”) preferred valuation approach for the DIA

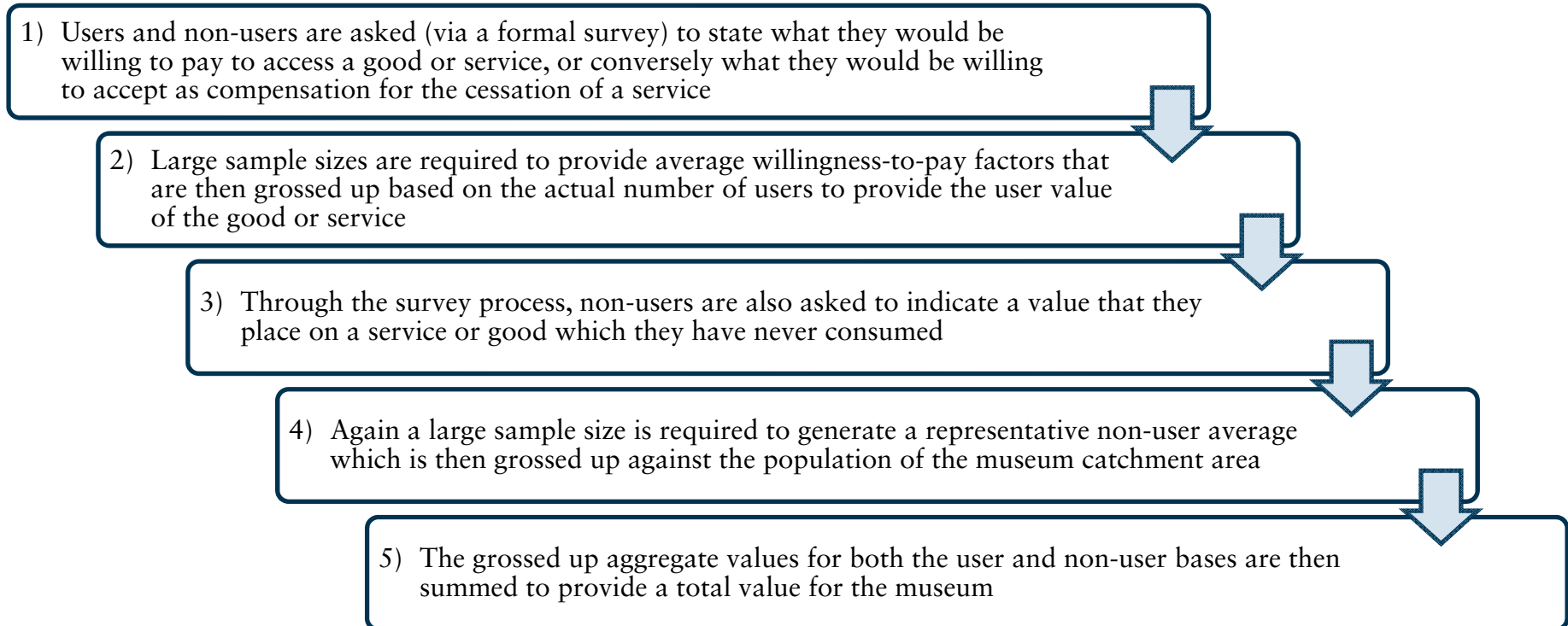
## Additional Support for Contingent Value Methodology

- Contingent valuation appears to enjoy broad support as a preferred valuation technique for cultural institutions from within the academic and consultancy communities
- There are specific examples of the use of contingent valuation in real-world museum valuation projects such as the valuation of several museums in Bolton, U.K. and the Museo Patio Herreriano de Arte Contemporaneo Espanol in Valladolid, Spain
- Contingent valuation was formally recognized and used by the U.S. Supreme Court as a legitimate valuation methodology for estimating compensation to be paid by Shell in the wake of the Exxon Valdez oil spill in 1989<sup>[3]</sup>
- Contingent valuation appears to have broad support in the U.K. and other EU countries (whose public ownership and funding of museums is comparatively widespread) as a preferred valuation technique for a range of government entities and cultural institutions
  - In the U.K., contingent valuation is the recommended valuation technique for cultural institutions and is used by numerous government departments to assess funding support for these institutions, including the Departments of Communities and Local Government, Environment, Food, Rural Affairs, Business, Innovation and Skills and Transport. Contingent valuation is also a recommended valuation technique by the UK Department of Treasury
- The widespread acceptance and use of contingent valuation has provided templates to follow in constructing a preliminary contingent valuation assessment of the DIA
- The ability to construct and compare a preliminary contingent valuation of the DIA to contingent valuations of other art museums provides helpful additional valuation insight

# Museum Valuation Methodologies – Using Contingent Valuation to Value the DIA

- The exhibit below summarizes the basic approach and methodology used in a classic contingent valuation model

## Contingent Valuation Process Summary



# Museum Valuation Methodologies – Using Contingent Valuation to Value the DIA (cont.)

- Because the DIA has so far failed to either conduct (or produce) a contingent valuation assessment, I looked to the Tri-County millage as a proxy for total aggregate user and non-user DIA museum value
- I then divided this number by the number of residents in the Tri-County area to derive an average catchment area contingent value
  - Note that before performing this analysis, I found basic methodological support from other contingent valuation analyses that used populations of the cities, boroughs or counties surrounding the cultural institutions being evaluated as the natural geographic catchment area
- Having computed the average DIA catchment area contingent value, I then compared this value to identically derived values in comparable contingent valuation analyses
  - For illustrative purposes, the contingent valuation analyses for the catchment areas of the DIA as well as museums in Bolton, U.K. are compared below<sup>[4]</sup>

## Illustrative DIA Contingent Valuation Analysis

\$23,000,000	Millage Per Annum
÷ 3,800,000	Detroit Tri-County Population
<b>\$6 per Resident</b> <b>DIA Catchment Area Contingent Value</b>	

## Illustrative Bolton Museums Contingent Valuation Analysis<sup>(1)</sup>

\$7,481,000	Local Resident Population's Willingness to Pay For Museum Services
÷ 208,000	Bolton Adult Population (Age 15+ Years)
<b>\$36 per Resident</b> <b>Bolton Catchment Area Contingent Value</b>	

(1) *Figures adjusted to USD*





# Appendix

## F. Recent Significant Art Deaccessionings & Monetizations

# Delaware Art Museum



*"Isabella and the Pot of Basil"*  
- William Holman Hunt

- In March 2014, the Board of Trustees of the Delaware Art Museum in Wilmington announced the deaccessioning of select works of art to repay the institution's \$19.8 million bond debt and renew its endowment fund<sup>[1]</sup>
  - The debt was issued in 2003 as part of a \$24.8 million bond financing to fund the expansion and renovation of the museum's Kentmere Parkway building, which was completed in 2005
  - Repayment of the remaining \$19.8 million balance was accelerated to October 2014 after the museum defaulted on performance covenants, prompting the trustees to pursue a deaccessioning<sup>[2]</sup>
- The trustees expect to raise \$30 million through the sale of up to four works of art, including "Isabella and the Pot of Basil," an iconic pre-Raphaelite painting purchased by the museum in 1947
  - The museum has not released the names of the other works to be deaccessioned, citing a need to preserve the market for private sales. However, the museum has stated that it will not sell any works acquired through gift or bequest—representing approximately 90 percent of the museum's 12,500-piece collection<sup>[1]</sup>
- Prior to 2014, the museum had taken several steps to defray costs and pursue alternatives to a deaccessioning, including drastically cutting staffing levels, reducing funding for exhibitions and pursuing fundraising and refinancing strategies (i.e., short-term, high-interest bank loan)
  - The trustees also sought the guidance of the Association of Art Museum Directors and the American Alliance of Museums but were unable to develop a viable solution
  - The museum has stated that given that the only alternative to deaccessioning is to close the museum, the Board of Trustees' fiduciary duty supersedes the museum's policy against deaccessioning<sup>[2]</sup>
- The AAMD issued a response that it "firmly believes that there are viable alternatives to this course of action and that deaccessioning works from the collection is not necessary to sustain the Museum's operations" and that, should the museum carry out the deaccessioning, "AAMD will have no recourse but to consider taking the strongest possible response to this action, including the censure and, if necessary, the sanctioning of the Museum"<sup>[3]</sup>
- "Isabella" was sold at auction in June 2014. The buyer paid \$4.9 million for the work, approximately \$4.6 million of which will be recouped by the museum<sup>[4]</sup>
  - Following the sale, the AAM voted unanimously to remove the Delaware Art Museum's accreditation, while the AAMD advised its members to stop loaning works to the museum<sup>[5]</sup>



# Maier Museum of Art at Randolph College



*"Men of the Docks"*  
- George Bellows



*"Trovador"*  
- Rufino Tamayo

- In October 2007, the Maier Museum of Art at Randolph College announced the deaccessioning of four paintings from its 3,500-piece collection to raise funds for the school's endowment and bolster its operating budget. The deaccessioning was expected to generate at least \$32 million of proceeds<sup>[6]</sup>
  - Following the announcement, the AAMD contacted the college to offer potential assistance in investigating possible alternatives to address the school's budgetary concerns<sup>[7]</sup>
  - Additionally, 19 plaintiffs including former museum staff, students, alumni and college and museum donors filed a complaint in Lynchburg circuit court asking for a halt to the planned sale. The suit was dropped in 2008<sup>[8]</sup>
- In May 2008, the college sold Rufino Tamayo's "Trovador" for \$7.2 million at Christie's Latin American Evening Sale
  - The AAMD responded by censuring Randolph College to signal its objection to the sale and discourage future deaccessionings<sup>[7]</sup>
- In February 2014, the Maier sold George Bellows' 1912 "Men of the Docks" to the National Gallery of Art in London for \$25.5 million. The painting had originally been purchased for \$2,500 in 1920 by the museum directly from Bellows with proceeds raised by students
  - As part of the sale, Randolph College would enter into a partnership with the National Gallery of Art in which curators would lecture at Randolph and loans of the Bellows back to the Maier would be possible
  - The AAMD, of which the Maier is not a member, responded by imposing sanctions on the museum which "will include instructions to...members to suspend any loans of works of art to and any collaboration on exhibitions and programs with the Maier"<sup>[9]</sup>
- The museum has additionally earmarked Edward Hicks' "A Peaceable Kingdom" and Ernest Hennings' "Through the Arroyo" for sale<sup>[8]</sup>

# Fisk University (Stieglitz Collection)



*"Radiator Building - Night, New York"*

- Georgia O'Keeffe

- In 2005, Fisk University, a small historically black college in Tennessee, took its Alfred Stieglitz Collection of Modern American and European Art off display and began exploring a potential sale, citing a significant operating deficit and an inability to afford the \$131,000 in annual display costs<sup>[10]</sup>
  - The 101 piece collection consists of artwork donated to the University by Georgia O'Keeffe, including four significant paintings by the artist herself, in addition to works by Picasso, Renoir, Cezanne and Rivera. The University stated in 2009 that the collection was valued at \$75 million, half of the University's total assets<sup>[11]</sup>
  - Prior to finalizing the sale of its artwork in 2012, the University had pursued other budget reduction actions including mortgaging several buildings and eliminating its entire athletics program
- The proposed sale was challenged by the Georgia O'Keeffe Museum in 2007, which, in representation of O'Keeffe's estate, asserted that the sale was in violation of the terms of the artist's bequest, which stated that the collection be kept intact, on display and never sold<sup>[11]</sup>
  - The Georgia O'Keeffe Museum further attempted to reclaim the entire collection, arguing that the artworks be turned over to the estate. However, in 2009, a Tennessee court ruled that the Georgia O'Keeffe Museum had no legal claim to the art<sup>[11]</sup>
  - The Tennessee attorney general also attempted to prevent a transaction, stating that the art should remain for the state's viewership
- In 2009, Fisk University proposed a deal in which it would sell a 50% stake in the collection to the Crystal Bridges Museum for \$30 million. In exchange for the money, Crystal Bridges will display the collection two out of every four years and will have the right of first refusal should the remainder of Fisk University's ownership stake ever be available for sale
  - The University argued that such a transaction would generally satisfy the terms of the bequest by keeping the collection together as well as allow the University to afford the display costs
  - In April 2012, the legal battle ended with the Tennessee Supreme Court's approval of the sale to Crystal Bridges<sup>[10]</sup>

# Field Museum



*"Wah-ro-née-sah, The Surrounder,  
Chief of the Tribe"*  
- George Catlin

- In December 2004, the Field Museum sold a collection of 19<sup>th</sup> century Western art for \$17.4 million to an anonymous buyer. The collection consisted of 31 George Catlin paintings, representing the bulk of the Field's Catlin collection<sup>[12]</sup>
  - Proceeds from the sale were used to bolster the Field's acquisition budget for the museum's scientific collections, as well as provide funding for staff salaries<sup>[13]</sup>
- Although the sale generated controversy among the museum trustees, patrons and the broader art community, museum management stated that the paintings, while significant works, did not fit in with the Field's core focus on anthropological artifacts
  - The Field had first begun reviewing its collection for non-core items for potential deaccessioning opportunities in 1998, with the Catlin paintings the only items that had any significant commercial value<sup>[14]</sup>
  - In December 2011, the Field sold its remaining 4 Catlin paintings through a Sotheby's auction for \$4.6 million
- In 2012, the Field announced that it would consider selling additional work, partially to address ongoing financial difficulties resulting from a 2008 bond issuance



# Brandeis University (Rose Art Museum)



*"Saturday Disaster"*

- Andy Warhol

- In January 2009, the Board of Trustees of Brandeis University announced its decision to authorize the sale of the entire 7,000 piece collection of the University-owned Rose Art Museum in order to shore up a shrinking endowment and fund the University's operations<sup>[15]</sup>
  - The museum, founded in 1963, houses one of the most important collections of postwar art in the region, including seminal works by Robert Rauschenberg, Jasper Johns, Andy Warhol and Roy Lichtenstein. The collection was valued by Christie's in 2007 to be worth between \$350 million and \$400 million dollars<sup>[16]</sup>
  - Then Brandeis-President Jehuda Reinharz stated that "Choosing between and among important and valued university assets is terrible, but our priority in the face of hard choices will always be the university's core teaching and research mission."
    - The University further noted that if they were unable to sell the art, they would be forced to reduce faculty size by 30 percent
- In addition to immediate backlash to the decision from the general public, Massachusetts government, the Museum's leadership, and others, four of the museum's most prominent donors filed a lawsuit in July 2009 to prevent the sale of the museum<sup>[17]</sup>
  - The case was settled in June 2011 with the University stating that it had no further intention or plan to sell any artwork, and that the museum would remain a university museum open to the public. However, the University did not rule out potential alternative monetization strategies<sup>[17]</sup>
  - As a result of the settlement, the state's attorney general dropped its investigation into the propriety of the University's actions

# National Academy Museum



*"Scene on the Magdalene"*  
- Frederic Edwin Church



*"Mt. Mansfield"*  
- Sanford Robinson Gifford

- In December 2008, the National Academy sold two Hudson River School paintings for approximately \$13.5 million. The proceeds were used to bolster the academy's operating deficit (estimated in 2008 to be around \$1 million on a \$4 million annual budget) and begin renovations to allow the academy to place more of its 7,000-piece collection on exhibit<sup>[18]</sup>
  - The pieces, by prominent American artists Frederic Edwin Church and Sanford Robinson Gifford, were sold to an undisclosed private foundation with the stipulation that they be displayed publicly
  - The sale was approved by a 181-1 vote of the academy's members, which had previously voted against selling the institution's six-story mansion on Fifth Avenue and relocating<sup>[19]</sup>
- The AAMD responded by sanctioning the academy, urging its members to cut off all loans to the academy and forgo any collaborations
  - Prior to the sanctions, the academy had recently withdrawn its membership from the AAMD, citing that it does not function as a traditional museum and does not buy works of art but rather only acquires them through donations from its members
  - Due to the sanctions, the academy could only arrange minor shows and had to cancel a major planned exhibition as a result of other museums withdrawing their promised works<sup>[20]</sup>
- The sanctions were lifted twenty months later in October 2010 by a unanimous vote of the AAMD's board after the academy changed its governance structure to include outsiders on its board and developed a long-term financial and strategic plan that expanded the fundraising capabilities of the institution
  - The academy is currently on a 5-year probation period set to expire in 2015 during which time its conduct is being closely monitored by the AAMD but loans and other forms of collaboration between the academy and AAMD members may resume<sup>[21]</sup>

# Thomas Jefferson University



*"The Gross Clinic"*

- Thomas Eakins

- In November 2006, Thomas Jefferson University's board voted to sell Thomas Eakins' "The Gross Clinic" for \$68 million in order to fund the development of a new campus<sup>[22]</sup>
- The painting was originally purchased in 1878 by the school's alumni and was named by one art critic as the finest 19<sup>th</sup> century American painting
- The university cited its core purpose of educating students as justification in selling the artwork, noting that the money would be more useful for operational purposes<sup>[22]</sup>
- Although the National Gallery of Art and Crystal Bridges Museum were the original joint winning bidders, the university offered local museums an opportunity to match the price and retain the painting in Philadelphia
  - Following support from upset alumni and city residents, the Philadelphia Museum of Art and Pennsylvania Academy of the Fine Arts indicated that they would be able to jointly raise the necessary asking price, thereby matching the \$68 million bid<sup>[23]</sup>
- In April 2007, shortly after the sale of "The Gross Clinic," the university sold a second Thomas Eakins painting to the Crystal Bridges Museum<sup>[24]</sup>
  - The purchase price was not disclosed, although the figure was estimated to be around \$20 million
  - The decision to sell, while formally opposed by the school's alumni association, was supported by the school's faculty and staff

# Fresno Metropolitan Museum of Art and Science



*Fresno Metropolitan Museum of Art and Science*

*Credit: Craig Kohlruss (Fresno Bee)*

- In January 2010, the Fresno Metropolitan Museum dissolved as a result of deteriorating financial performance and a default on \$15 million of municipal debt incurred to finance an \$28 million, 3-year building renovation project in 2005 <sup>[25]</sup>
- Following its close, the museum auctioned off its artwork and other assets, valued initially at approximately \$3 million to \$6 million, in order to repay creditors \$4 million of debt still owed after foreclosure of the building<sup>[26]</sup>
  - Sotheby's conducted the majority of auction sales, raising approximately \$2 million
  - Total recoveries for unsecured creditors were approximately 80 cents on the dollar<sup>[25]</sup>
- Prior to its decision to close, the museum considered filing for Chapter 11 bankruptcy, but after calculating potential costs and delays, instead chose to pursue a liquidation to benefit creditors<sup>[25]</sup>

# Louvre (Louvre Abu Dhabi)



*"Pyramid du Louvre"*

- In March 2007, the French and Abu Dhabi governments entered into a 30-year, \$1.3 billion branding, training and art exhibition agreement under which a new museum to be constructed in the Saadiyat Island Cultural District would bear the Louvre name and contain pieces loaned from the Louvre in Paris, among other considerations<sup>[27]</sup>
  - The agreement, approved by the French Parliament in October 2007, is comprised of:
    - \$525 million paid to be associated with the Louvre name for 30 years;
    - \$247 million for loans from the Louvre over a 10-year period (expected to be approximately 200 to 300 pieces);
    - \$253.5 million for special exhibitions (4 exhibitions per year for 15 years);
    - \$214.5 million for management advice for 20 years; and
    - \$32.5 million as a donation from the city of Abu Dhabi to the Louvre to refurbish a wing for the display of international art
- The approximately 300-piece list of works to be loaned from France's museums is currently being compiled and will likely include a broad range of various disciplines, cultures and time periods
- The museum is expected to open in December 2015 as part of a planned cultural district which will also include a branch of New York's Guggenheim and a national museum
  - In May 2009, the Louvre Abu Dhabi opened its first exhibition to the public containing the institution's first 19 acquisitions<sup>[28]</sup>
  - A second exhibition opened in April 2013 featuring approximately 130 works acquired for the museum's permanent collection, including a previously unseen Picasso<sup>[29]</sup>



# Louvre (High Museum of Art)



*"Portrait of Baldassare Castiglione"*  
- Raphael

- In October 2006, the Louvre entered into a similar revolving art-loan deal valued at approximately \$18 million with Atlanta's High Museum of Art
  - The \$18 million cost included a \$6.4 million donation to the Louvre to help restore its decorative arts galleries<sup>[30]</sup>
- As part of the 3-year agreement, the Louvre brought seven exhibits and 493 pieces from Paris to Atlanta, including masterworks from all eight of the Louvre's curatorial departments and rare works by Raphael, Titian, Vermeer, Rembrandt and Velazquez
  - Over 1.3 million visitors attended the exhibitions, boosting the museum's membership to more than 50,000 households and placing the museum's membership in the top 10 among American art museums<sup>[31]</sup>
  - Additionally, the museum was able to raise over \$16 million in sponsorship over the course of the partnership
- Following the conclusion of the program in 2009, the High announced plans to seek a second collaboration with the Louvre as well as negotiate art loans with the Museum of Modern Art



# Appendix

## G. Calculation of Pension UAAL in Disgorgement Scenario

# Pension Disgorgement UAAL Calculation

- In the event that proceeds from the COP transaction are disgorged from the pension trusts on December 30, 2015, the GRS and PFRS pension plans' projected UAALs on June 30, 2023 would increase from \$695 million to \$1.9 billion and \$681 million to \$1.7 billion, respectively, assuming a 6.75% investment rate of return

## GRS

Assumptions	
Net Transaction Proceeds	\$739.8
Disgorgement Date	12/31/2015
End Date	6/30/2023
Assumed Investment Rate of Return	6.75%

	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022	6/30/2023
Incremental Funding Deficit	\$739.8	\$789.7	\$843.0	\$899.9	\$960.7	\$1,025.5	\$1,094.8	\$1,168.7	\$1,207.5
City Projected UAAL @ 2023	\$695.0								
Incremental UAAL Due to Disgorgement	1,207.5								
<b>Adjusted UAAL @ 2023</b>	<b>\$1,902.5</b>								

## PFRS

Assumptions	
Net Transaction Proceeds	\$630.8
Disgorgement Date	12/31/2015
End Date	6/30/2023
Assumed Investment Rate of Return	6.75%

	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022	6/30/2023
Incremental Funding Deficit	\$630.8	\$673.4	\$718.9	\$767.4	\$819.2	\$874.5	\$933.5	\$996.5	\$1,029.6
City Projected UAAL @ 2023	\$681.0								
Incremental UAAL Due to Disgorgement	1,029.6								
<b>Adjusted UAAL @ 2023</b>	<b>\$1,710.6</b>								





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